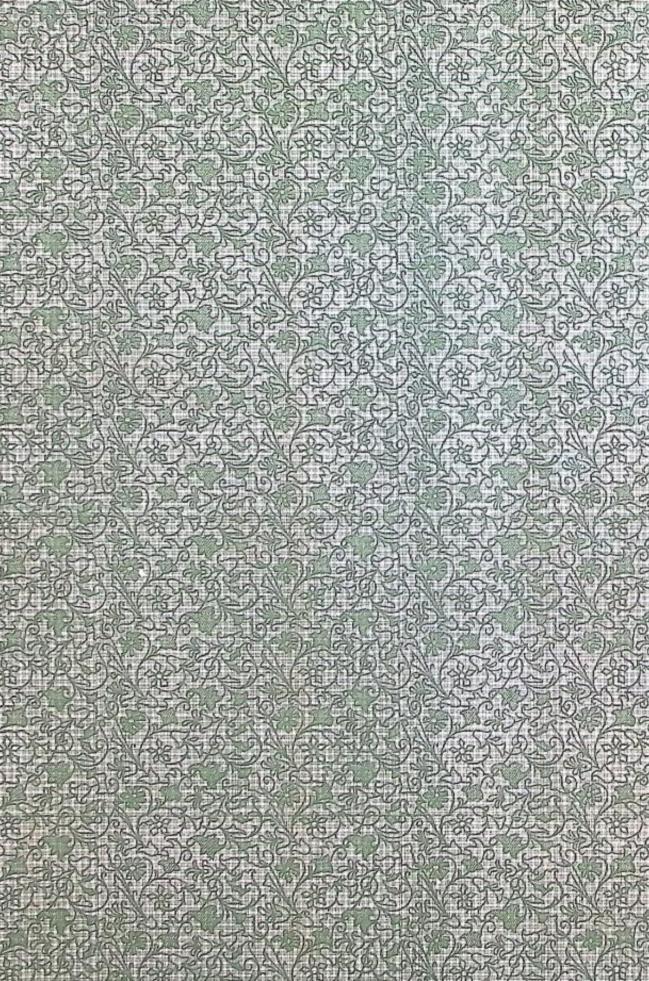
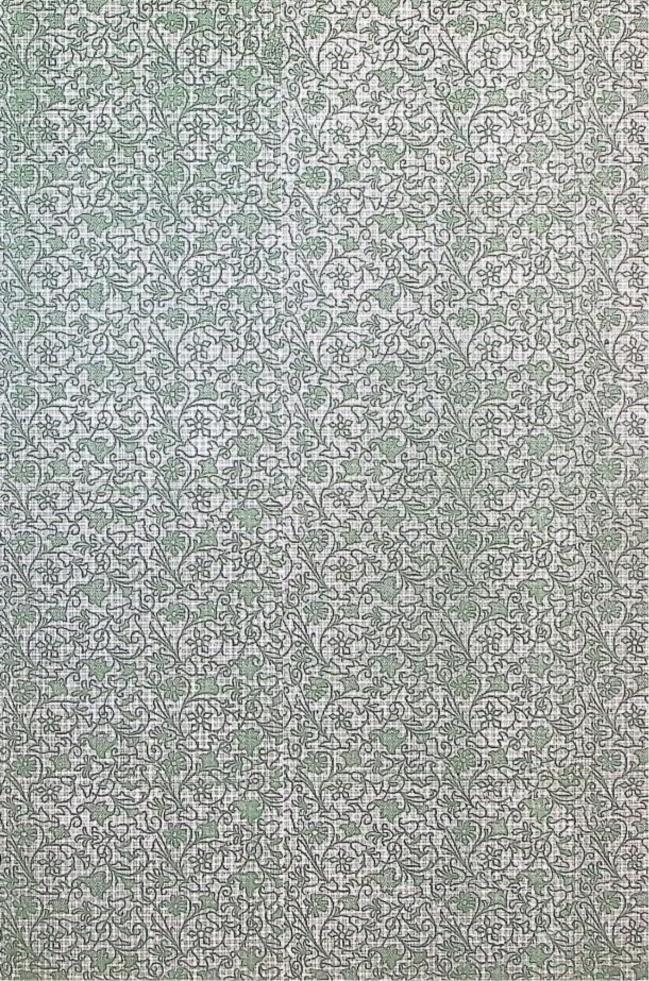


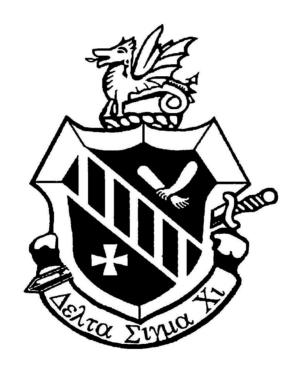
SGIENCE OF CHIROPRACTIC

VOL. III.
PALMER
1911





Archived and Distributed By Delta Sigma Chi Fraternity of Chiropractic, Continuing the promotion of STRAIGHT Chiropractic





COPYRIGHT, 1908-1911, B. J. PALMER, D. C., Ph. C., DAVENPORT, IOWA, U. S. A.



To "Uncle Howard" Nutting, who has labored with the workers of this philosophy and the science itself; who has helped its material steps unceasingly; has placed its interests first, time and again, to the detriment of his daily avocation; and whose writings have materially advanced the progression of Chiropractic from an art to a science, and, in recent years, from science to a philosophy of Chiropractic, is this work dedicated.

The Philosophy and Principles of Chiropractic Adjustments

A SERIES OF THIRTY-EIGHT LECTURES

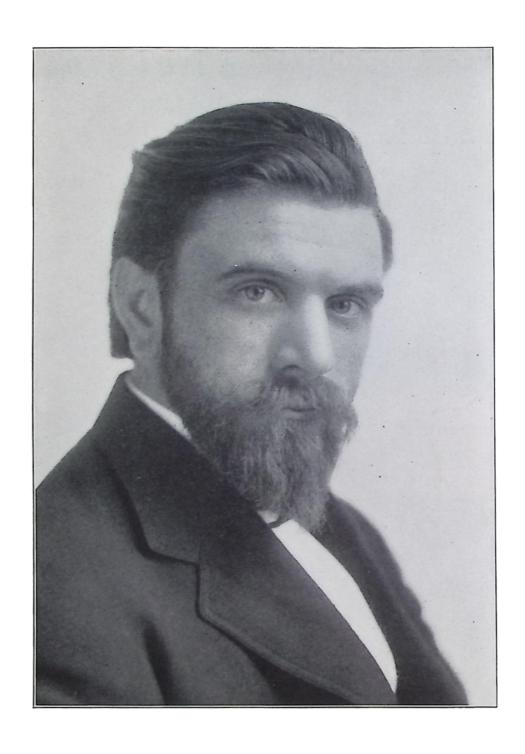
Delivered by B. J. PALMER, D. C., Ph. C.

President

The Palmer School of Chiropractic "CHIROPRACTIC FOUNTAIN HEAD"

Davenport, Iowa, U. S. A.

The Palmer School of Chiropractic, Publishers Davenport, Iowa, U. S. A.



B. J. PALMER, D. C., Ph. C.

PREFACE.

The public have been bored with therapeutical books for centuries, yet previous attempts have never given complete satisfaction. They but created yearning for something definite, does not require great labor, can be relied upon in all cases, that is certain to deliver what is wanted, so that the head of each home can be his own health giver without enormous doctor bills—"something that just fills the bill." The masses are groaning with the miscarriages of injustice that they have been forced to accept thru allowing others to think for them. Some books are of great pretensions, others offer plausible intentions, endeavoring to use compulsion to make you believe something against which your judgment, if faced with the deception, would revolt.

Nothing is farther from my intention than to disparage their several aims. Honesty exists in all ranks, in that they try to reach perfection thru superstitious and mythical means. Therapeutics is wrongly based. It needs one vast revolution. This is the mission of Chiropractic—the first non-therapeutical theological philosophy. Christianity made a reconstitution and "revelations" and "miracles" of those days are being accomplished today along lines which utilize the same powers with identical intents.

The mission of ministerial work is to draw mental man nearer to God. The work of a Chiropractor is to allow God full expresion in the physical and mental man. Does the present day "preaching the gospel," performing operations, or dosing with drugs accomplish the aim? If not, then something is radically wrong. You must be teaching, believing or pinning your faith to prescriptions and the knife, none of which are consistent or in accord with simple facts.

Instead of building mysterious ideas in atmosphere and thru that ultimately hope to reach the root of mental and physical evils—if possible; reverse it, let your first question be "What is life—death—and the intermediate, disease"? Answer these theologically and philosophically and you will have reached a fundamental—providing—you can bridge the gap between the etherial and the physical, if so, you are a candidate for further wisdom, but not until.

I do not wish to question the claims of professional ability that we do not see, for its records are too well implanted upon the memories of all, well knowing that if merit is between the lines it will ooze to the surface with results, if stalled in the mire then more than pleas and supplications to God are necessary to return health so that all, laymen and professionals, may see, partake of freely, and perform such work. No man leaves the fallible of vesterday for a truth of today without a mental tussle with self or the fellow-mortal that presents it, but in truth and justice it must be confessed that as far as other works relate to or copy from what is taught at The P. S. C. in the philosophy, science, and art of Chiropractic, their authors have not escaped the common error of superficial reasoning along materialistic They overlook the fact that the average reader is not grounded in the simple, true principles of what, where and how innate intelligence thru your brain reaches you and me and thus the lack of knowledge of the complete circuit maker or breaker has allowed stagnation to revolve around this corporeal circle with no start or end, upon the part of the doctor or patient; each has aimed to take advantage of the other's stupidity and, without assigning reasons for this or that conclusion, they continue to force beliefs or dogmas. Disbelief but repeats itself thru trials, then a fashion of today is born and dies tomorrow. As one writer has said, "They are trying to sail the ship of science and art, over the seas of life, without a philosophical intelligence to guide it." This was the condition of affairs at the time Chiropractic was born. Man was forced to consider that "phenomena occurred" without that of a creative mentality. nomena happened" by "sympathy" after playing hide and seek thru dozens of belly and spinal brains, etc., which was sufficient to settle the subject. How or why were questions looked for in things entirely corporeal or wholly spiritualistic; neither one tried nor dared to unite the forces of the one with the other. It has remained for Chiropractic to prove that they can and do work with each other.

Preceding generations have been taught the intricacies of sailing into and thru your material ship of state at a school equipped for that purpose; they have purchased materials galore with which to accomplish this mission. Yet Christ walked this earth without the methods of therapeutics known today and accomplished "cures" that, today, would awaken the most rebellious actions upon the part of the present day ethical practitioners.

The intellectual reasoning that guides your or my bodies, supplies them continually with power, keeps bodies warm, sees that we get nutrition, repairs our bones if fractured, "cures" us if sick, etc., from birth to death, has been overlooked; its values and what can be accomplished by allowing that force to work in unison with the physical has been too deep for any past mind to link with the material. Many an individual has assumed either the spiritual issue as "all in all" or the materialist has said "physical is ruled absolutely by corporeal elements," but it remained for the last five years to issue Chiropractic philosophical work to fully and unquestionably prove the bridging of this chasm.

I am not acquainted with any book, in any of the sciences, that is calculated to furnish such teachings as will enable the philosopher to accomplish that specific assistance, or one which professes to drill the student into the groundwork of simplified, correlated facts, regarding the source of all power (Innate Intelligence), its mannerisms, means and ways of showing itself, how it supplies the physical body with its daily wants ("Give us this day our daily bread"), or has even made of that theosophy a science, art, and philosophy which can be and is practiced by manual means, in daily execution and positively links one with its counterpart.

The following chapters were delivered in daily recitations at *The P. S. C.* as "short talks" about the vertebrae and the various points of knowledge most necessary.

Numerous are the works that present us with conglomerated, juggled details of either one extreme or the other of this issue, but not one with a philosophical union, proven practically, other than what exists in THE SCIENCE OF CHIROPRACTIC, Vols. I, II, III, IV and V, in which all research and investigation has been confined to the study of the backbone of all creative faculties and its counterpart, expression, and allow God physical personification without hindrance or interrup-

tion in a temple of thons own making. It is the means whereby all of this is accomplished that has prompted the publishing of Vol. III.

The P. S. C. library, as well as others, have books, good, bad or indifferent, but none ventured to discuss the laws of forces, powers, or the study of biology and then make a union with its mediums. Where your creation received its intelligence, or by what means it is personified, has long been considered unnecessary, nor have they attempted to explain the essential parts which each is supposed to perform in the general scheme of the expressed likeness of God; they cannot therefore lead to any generalization or localization of focalized ideas. With such unstable premises, Chiropractic had a herculean task before it; tho it has met handshakes from friends and rebuffs from strangers, yet it is steadily gaining new adherents who are sincere and wish a higher enlighten ment. Too often the young or new practitioner is apt to take things for granted because "it always has been so" or "it is printed in Gray's Anatomy" (and many times contradicted in Dunglison's Dictionary), without reasoning along original lines or doing independent thinking. What he needs is the beacon of Innate Intelligence as the first rock, then bring into action latent forces, and let those conclusions lead him into ascertained and proven facts regardless of whether books say it is or is not so; the product of his ambitions will be original. His ship will not be abandoned upon the shoals of despair by one of two evils—a feeble and servile routine of mumbled words, or a wild and lawless empiricism.

This issue aims to supply this deficiency, by proving, step by step, how your physical machine can be adjusted to a philosophical one, making a unity between the hobbies of spiritual life and physical demonstrations, and portrays how this is accomplished—it leads you from supposed knowledge to facts.

That the design of the present work may not be mistaken, it is essential to remark that we take it for granted that you have studied the *philosophy* contained in *THE SCIENCE OF CHIROPRACTIC*, Vols. I and II, and are therefore ready to accept what is contained in Vol. III. Without its predecessors this is Greek; one must go with the others. Many practitioners enter this

study thinking to add Chiropractic to what they previously had—this is impossible. This philosophy, rightly understood, is so based that the fundamental of one will not—cannot—mix with mythical theories propounded for centuries. It is too modern for that, and yet we are but deciphering and placing into intelligible words that which has always existed, the laws of God, and that is why the cruder (?) and lower (?) order of intelligences, in natives of various countries, all have some form of manual treatment applied to the spine, for they are closer in communion with their Creator and His ways of doing. They work towards and the present day scientist from inevitable laws.

The aim thruout this book has been to explain subluxations and their adjustments around six words, viz., superior, inferior, left, right, anterior and posterior. With these any combination can be elaborated upon. Like the mariner's compass, the four directions, viz., North, South, East and West, tells every direction he wants to go or has come from.

I had an idle moment last Sunday; I went into the studio and looked at twenty or thirty specimens and demonstrated that there could be subluxations of vertebrae during life—being represented now in ankylosed form. When out in the field, or in our clinic, of course we won't usually get subluxations so bad, but they do exist. The P. S. C. collection is a culled one; that is, perhaps we select but one vertebra or one set of vertebrae or single bones from a collection of 1,000 specimens. And if we had 150 different specimens of vertebrae it would mean that about 150,000 people had contributed to the collection.

A certain illustration in this book shows a posterior right subluxation of the 2d dorsal. If it were possible to take that specimen from a spine, without interfering with the position of each, one upon the other; take away all the surrounding tissue and place that for our observation in Vol. III, it would be exact, then; but you must realize that it has lost some of its detail. Even the actual vertebra loses in detail in being transferred from an object to a negative, negative to paper or cut for the book.

If Innate could talk to Innate without words, intensification and exaggeration would not be necessary, as it is now, that you may have a clear idea of subluxations as per the present series of photographs. would be a delicacy of thot; a fullness and clearness of comprehension that we do not get today from educated mind talking to educated mind. It becomes necessary in this day and age to say, "I went down town, honestly I did." Innate minds would know, when you said it, whether it was open to question or not. In speaking educationally and portraying things from educated mind to educated mind, thru educated mediums, we intensify or exaggerate them, or else the educated mind won't see the fineness of detail of the original. A rule of transmission of thots is to consider them reduced, transport them exaggerated, then permit the second party to consider your ideas by their personal reduction.

Every author or compiler is aware that the camera does not reproduce as keenly as the eye sees; also that each step, from the photograph to that of reproduction on book paper from the halftone, has a tendency to withdraw detail that he might have wished to reproduce. Having this knowledge, I have purposely exaggerated the positions of many of the portrayals to carry the conception so that its intentions could be readily grasped by the lay or professional mind alike.

I wish you to remember that such abnormalities could and do exist as proven by post mortems and the innumerable specimens of The P. S. C. Osteological Collection, but the majority of patients which general practice gets exist in more minute form, with the consequences to correspond. To reproduce the subluxations, etc., as they are usually found upon minute palpation would be so slight (compared with the illustrations) that the specific intents would be lost. With this explanation I commend the illustrations in Vol. III for your study.

Chiropractic existed as an art for the first 3 years; as a science for 7 years and as a philosophy for the last 5 years. Its principles were not worked out; it remained for minds other than the discoverer's to ferret them out and then use their ability to present them to the lay or trained mind.

A child can pick up a hammer and nail and drive the nail—that's art—purely the doing of things. Ask the child how he does it—he does not know. Later he tells you how—that's science—and you see that the child has progressed, but "why did you drive the nail," and he doesn't know. Later you ask again and then he tells you; you realize that he has reached the age of analysis—of philosophy.

In the history of the usual philosophies, sciences and arts, philosophy comes first, then science, and art last—a peculiar change in the revolution of ideas is ours—during the first three years of Chiropractic the first man only knew how to crudely push bones; later his followers began to reason how to do these things better; gradually, of course, and proportionally as the pupils paced the teacher the teacher followed the pupil, but it is only in the last three years that the *why* of Chiropractic has been worked out and made a practical foundation.

In this work not only does the language in which ideas are couched belong to the author, but the very thots themselves were his from their inception. Upon him has devolved the labor of their development. Even the methods used in illustration are the children of his own ingenuity.

In some of the pages we have repeated the point numbers without filling them out. We wished to avoid repetition; it is tiresome to the reader and has no gain. This body is but a repetition of nine primary functions and when put thru a Chiropractic analysis shows that all are the same, with a different location of effects and cause and a name to correspond.

Books have been written, some with intelligence and others without it; others for scientific reasons; more on the viscera and tissues and less about the spinal column and its philosophical value than any other subject in medical annals, but this book has the distinction of being the first to exclusively confine itself to the vertebral column, conveying the knowledge that each and every vertebra is the physical representative of the cause of many abnormalities existing in, near or distant portions of the body. It teaches you to rely upon the forces within man to correct its subluxations; it proves the capability of one man to adjust another even if lost in

the woods with Mother Innate's tools—mind and hands. No adjuncts need knock. Should disease *exist* adjust the cause, then look internally for the power that heals.

It is a significant fact that books have been written, yes, library after library, some of it intelligent and some of it containing little science—but most of it dealing with muscles, viscera and the general skeleton, but so very little on the spinal column. Book after book on bacteria, on telling God that he didn't start a kerosene well in the right place to kill the malaria germs with, and yet only one book today in all this world of medical libraries that confines itself to the spinal column, as important as we deem it to be, and that's the book before you. It handles it not only from the philosophical standpoint, but the anatomical as well, showing the value of each structure in connection with the restoration of currents.

This book teaches one man to help another at any time, in any place—in a wilderness or a forest. It is not necessary to have a drug store, a hospital or any special apparatus—not even an adjusting table. You can lay your man across two logs, two piles of leaves, or stretch him across a little stream (if you can find one small enough)—any way so that the shoulders and thighs are higher than the trunk or the abdomen; then you give your adjustment.

I have heard much about the Missionary schoolsplaces where men are trained to save men's souls and bodies and keep them together-medical missionariesand we have reached the conclusion that a Chiropractic missionary training school would be fine. The Chiropractic missionary would not need paraphernalia with him (which in the other man's case were purchased with the pennies of perhaps thousands of confidence-abiding Sunday-schools, all confident that their pennies will convert and save the soul of some heathen). But what can you expect? When parents believe the way to save bodies is to poison them with vaccine virus, etc., how could you expect children to know better? It will take more of their money to transport these supplies and drug-store products to the other side—all this would be saved, and the Chiropractor could go about doing good free and untrammeledthe live in Africa. One year or forty, he is ready to restore normal conditions—he is not handicapped by lack of supplies or the wherewithal to overcome diseased conditions. If we were looking at this no more than from an economical or sociological standpoint it is worth while. I will, some day, establish a Palmer Missionary Institute in Davenport and start out missionaries. And just as a subject for thot, figure which would be capable of doing the most good as a foreign missionary—a graduate from this institute or one from the bible.

It is with the hope of further establishing the individuality of Chiropractic that we publish this book, acknowledging that it will fill a niche that has never been approached before, and that no one is more capable of presenting this philosophy distinctly upon an independent footing than the one who has spent years in deducing a reasonable, simple, scientific manner of always knowing just how and where these philosophical connections can be made, where exists all the switches that turn on or off the Innate currents to depleted, atrophic or hypertrophic tissues. Other minds have come and gone, performed their share, be it great or small, of these labors, and several times have been forced to drop the burden that became too heavy, for it requires more than mental or physical strength—it needs steadfastness of purpose, righteous principle and superior observation to succeed in advancing a theosophical philosophy and convincing the masses that it can be and is, for the first time, adjusted to a practical art and science.

Point 12 is considered broadly, althouthe intentions were to list the diseases that are adjusted there, but its size soon proved that that would be a book in itself. Point 12 was then revised to convey a general knowledge of the areas and localities involved. "Causes Localized," Vol. IV of The Philosophy of Chiropractic, is a dictionary of technical and lay names for all diseases and where to adjust for each that it would be impossible to issue here.

Each year sees further independent progress in making this compilation of two elements, united into one coördinate whole, a vast movement which will create the greatest unrest in therapeutical ranks the world has ever known, for upon the strength of this non-therapeutical agency and the consequential health of mankind depends greater future intellectual progressiveness and all that advanced ability creates and rules.

Hasn't Chiropractic already created a great unrest in therapeutics, the greatest the world has so far seen? The world is a battlefield—there will be thousands of generals and every man a soldier. The therapeutical ranks have been restricted to certain districts and localities, but they will be trying to protect their strongholds and every man will take sides until the battle is won.

The progress during 1906-'11 has been nothing short of the energies spent in endeavoring to set a pace that is now creating a furore in superstitious ranks. If this volume will but help to continue that movement, then it will have fulfilled its mission.

It is with the hope that I may be able to propagate our already acquired knowledge so that its usefulness may be more widely extended; and, by offering this collective arrangement of the vertebrae, and how each may be subjected to concussions and subluxations consequently, and diseases subsequently, and how that acts as a circuit breaker between currents, mental and physical; and then how to again make a philosophical cycle of life creation and health expression in contradistinction to life creation but lack of expression—disease—and to establish this philosophy of Chiropractic upon a more simplified, scientific basis, and thereby render its future career one of improvement, and progessive with that of other branches that The P. S. C. has brought forward. or to follow up the figurative illustration, already introduced, to furnish the pilot of the boat with the knowledge of how its course is wrong, how to read the compass and then give instruction how to steer the steamer in harmony with Innate intelligence so that your craft will land at the welcome port of Health and Satisfaction. Chiropractic conveys you, as a disciple, to the ship, and at the same time teaches its intricate workings and guides vou thru all the shallow and treacherous channels that offer themselves at every turn of the course.

B. J. PALMER, D. C., PH. C.,

CHAPTER I.

PRINCIPLES OF CHIROPRACTIC ART.

The world in its study of ideas, as Innate expresses them, has divided them into two classes. First, everything observed is materialistic, and second, that phase wherein the unknown workings of "nature" are stated to change in which they are called immaterialistic. Man in his workings has seen products, and these are purely materialistic changes. To such an extent, then, does the present day human mind work that it sees changes and tries to argue how these changes took place from a materialistic and an immaterialistic standpoint. other words, man has seen the world of matter, and he is continually trying to cipher how and why matter changes. One side of that life is the philosophical one, wherein man tries to argue in what immaterialistic way these things take place. Instead of holding to the question "how," he prefers to answer "why." Theology, in its greatest percentages of any phase, is more or less, in the largest majority of thinkers' minds, a spiritualistic view of the world. Man has always recognized a universe of matter and he has always recognized a universe of intelligence, but man as a psycho-physical unit has not always recognized a psycho-universal world. The theologist, in all that he may say and do, is worthy of our deepest considerations purely from an immaterialistic standpoint. Yet no theologist in his correct interpretations of the Universal Mind has practically, logically and deductively applied his theological conclusions, if you will, to the workings of a universe. The nearest approach to this has been the recent Emmanuel Movement and the historical Jesus who healed the sick. He has his basis and his effective basis may be correct, but regardless of how correct they may be it is not intellectually correct until man can logically, point by point, prove his contentions. Chiropractic takes on the two It is not a materialistic or an immaterialistic state alone, it is the uniting of two; and it is not only our duty to be students of man, but students of the world of man-thinkers of the universe of things natural. It is our chore to unite if possible the three fundamental questions of "why, how and when." These things we are accomplishing the philosophy of Chiropractic.

Ideas take on one man size, but Chiropractic is more than that. It is solving the fundamental principles of all things and conditions, and when it solves the principles of one man, we will have solved the principle of all men; when we have solved the principle of all men, then we have solved the fundamental principle of all vertebrates. As man is to men what a tree is to a forest, what the vegetable is to vegetables, or what an animal is to animals—vegetables and animals, beasts, savages and educated races are all corelated so far as God is concerned, yet they are all products of one mind, therefore one common creation, transmission and expression; consequently the fundamental that makes the man creates the vegetable and animals, be they beasts, a mere savage, or an educated gentleman, and instead of being only applicable in your mind to a single individual, it is applicable to all things.

This lecture confines us to a materialistic application of art, but even the we confine our ideas we are doing it for an immaterialistic reason. When God built this world it was according to an analysis upon which every move would be made, and that is the analysis which we consider. So man in his re-application of the rebuilding processes must use an art based upon exactly similar grounds, is the keynote of Chiropractic, the fundamental. Analysis is the observation of things that have always been; it is the true viewpoint.

In making a spine, the Universal Mind had certain fundamental bases upon which to build, and it is our intention to confine our basis and analysis upon which it was builded—to study its normal conditions; then if something gets wrong in that spine, reverse the order of things. You build a building and if once you tore down that building and wished to rebuild it exactly as it was, it would be necessary to utilize the same process, the same or exactly similar materials as that from which it was first made. The child being born today in the mother's womb is the same process which was born ten thousand years ago. The child born of a gorilla mother goes thru the same process so far as regards composition, quantity of cellular structure,

function in expression, so far as regards every expressive attribute you may give, but the difference that does exist, as our educated and finite minds can conceive, is purely one of quality, observation and analysis made by the mind in and behind. The mind that I refer to, that is evolved, is purely educated, not the Innate one. The Innate mind of that gorilla baby is a similar Innate to that existing in my baby. My baby with its Innate mind cannot conceive nor perform an internal function better than the same or a similar function in the gorilla baby. The foods will be digested in my baby's stomach, but no better than that of the gorilla child.

It has always been a "principle of nature" (using the term in an abstract consideration because nature is an ill defined condition) to do all things now and you will find that "nature" is prompt in her actions. You never see "nature" pushing anything. She works with a speed and force.

In man, considering the fundamental specific application of those ideas to a spine, no principle of adjusting involves the idea of pushing vertebrae into place. The Chiropractor could find nothing more practical to carry his point than to bring the illustration of a hammer and nail. We know what it is to drive a nail. No matter how awkward the housewife may be in driving nails, she knows that to drive is not to push.

I am not a believer in words as they are forgotten, nor in a combination of particular words to express anything, but I am a strong believer in the idea of pictures implanted upon your minds. Pictures you never can forget; for, when a thot comes to your mind, it presents a picture; and whatever words I may use, the end will be to implant pictures and then, as a word is spoken, it will not referthe word to your mind but refer you to the picture; so while we build, implant the picture. Pay attention to my words only so far as they make clear to your mind the picture.

The mariner's compass remains—the needle never changes its unerring direction, but man modifies his locomotion to accord with the compass. This is true with Chiropractic. We have two methods of placing the hands to conform to what we are doing to your hands, to place them according to the subluxation lining

it up with the spine. The first set of positions is more applicable than the second; sometimes the latter is better than the first. This is a question of viewpoint and adaptability with the student. It is oftentimes noticed that he will cross, using one on one subluxation and another on another, lower or more superior. This is purely discretionary and arbitrary with the student. For some years we have been systematizing the movements, and as a conclusion we have evolved the systems enumerated. Either is correct at any place and under any circumstances, and each of them works in accord with the balance of the principles gone before and to follow.

The illustrations represent the position of the hand when giving an adjustment as lettered nearest to it. In this position some students can get a better double arm recoil than they could with the second series. In the second series the lines still show how the long way of the hand should be, but you will notice that for the same kind of a subluxation the hand has materially changed from that found in Series 1. Some students have found the position of their arms and the movement of the double arm recoil easier by following out this phase.

The P. S. C. teaches both and does not restrict any one student to the absolute use of one. In senior class work, both are used to the satisfaction of student, patient and faculty.

In looking at the stereopticon views with the lights on, apparently black as it is, it contains a study. Everywhere and anywhere you ought to see studies; see something which could be investigated to a profit and advantage.

I see a moth miller and the common house fly flying up and down that curtain. Can you conceive that the moth miller, by comparison, has in its minute body every bone, muscle, and nerve the same as we; that we have not a single muscle in our body but what that little miller has also? Can you compare the moth miller with the house fly? As small as the moth miller is compared with us, as small as the elephant is compared with the mastodon, they all have a brain; all have a nervous system and all are utilized to a same end. There is a brain

and a nervous system in each, and there are being completed cycles in these individuals all the time. There is an intelligence in and behind each of those, the same as there is intelligence in us; they are working to a definite end; reproduction is taking place in each, the same as in the human; there must be an intelligence because no animal can reproduce another without.

In the foregoing paragraphs, on the principles of adjusting, I brot to your minds the fundamental of the different directions of the mariner's compass—north, south, east, west, northeast, southeast, etc.—and I presented the idea that the spinal column was a line shaft; that this line shaft of man should be as true as any mechanic's line shaft.

We make comparisons between things of man and made by man. This one-thousand foot line shaft on the arsenal is one massive piece of steel. It has few joints. It has no movable portions. It moves as one piece. cannot flex, bend nor be pulled apart. It cannot extend or counter-extend. It has no flexibility. The spinal column is man's line shaft; it has the ability to move forward and backward, to either side, and to extend upward or to counter-extend downwards. shaft of man is greater than any line shaft made by man because it is a standard to which all should reach. This shaft of man should be as true in a movable sense as the line shaft of Uncle Sam's arsenal should be in a solid. Our line shaft, even tho it be in twenty-five sections, should be as true, each section upon the other, as that solid piece. That is the ideal picture that should be present when you prepare to do something with a spinal column. You should take into consideration the anterior curve of the cervical, the posterior curve of the dorsal, the anterior curve of your lumbar and the posterior curve of your sacrum. You should consider the primary and secondary curves, the preliminary and adaptative or accommodative curves. You should at least see that line shaft as a complete, thoro ideal shaft. You palpate a patient's spine and you find irregularities which count for nothing only so far as you see a picture of that spinal column as you want it to be. Begin your work carefully, day after day working that shaft back to where it should be. Have a goal in view if a patient

comes to you with tuberculosis as you would if you were a mechanic and wanted a chalk line drawn so that a floor wouldn't sag a sixteenth of an inch. When a patient comes to you with an irregular line shaft, picture what it should be, work to it and you will accomplish much. Suppose you had twenty patients a day; you will have twenty different line shafts. When a patient comes to you, forget what that line shaft was yesterday, but don't forget what you want that line shaft to be today. When you have gone over a piece of ground, forget it and think of the ground you are going over today. A man goes into a race, makes the first quarter, and as soon as he has he forgets it, but what has he in mind? That goal. Supposing a man started to run a race and had no goal; just "started out" and kept running until someone said, "Stop! You have run over the wire." That is no way to run a race. Start out with the patient as you would if you were going to run a race. When you have gone the first quarter, forget it. When a patient comes and you palpate that spine for the first time, picture where you want to put that spine; and then at the end of a week if he says "I don't want to take any more adjustments," show him where the spine must be some day to be a normal man. Draw a picture of the advantage of extending that line shaft, of getting those cycles thru as a result, and that man will not leave you as a patient.

There must be a copartnership existing between the Chiropractor and the patient. In the delivery of our goods we have nothing to be afraid to present to our patients' minds. We should come in closer contact with them. Tell them everything about their analyses. We are not following that plan here at the school. We can't, and yet it is necessary to know that phase. Spend twenty-nine minutes to tell the patient why you are adjusting that spine and one minute to give the adjustment. Your man being a reasoning man, logical and a thinker, he will stay with you.

That is what I want to present when I show the pictures thruout this book. I want to show what I had in mind, what it is necessary to do to the line shaft of every man to make them live up to the ideal twenty-six section movable line shaft.

CIIAPTER II. VERTEBRAL PALPATION.

Within the past three decades many systems of practice have arisen and flourished apace, feeding and growing on the failures of the medical profession and drawing their vitality from the new and original principles which founded them or were introduced into them during their formative period. The endurance and permanence of each system may be measured by the fidelity with which they have adhered to their original principles and the persistency with which they have continued to place stress upon those principles which gave them birth. Their failures likewise may be traced to the usual and apparently natural reversion to older ideas, and in the struggle for existence the established idea is the one which has usually prevailed.

There are certain fundamental principles and ideas which have given rise to a new system called Chiropractic; a system which is today good and successful as a direct result of the action of those same principles and their development along rational lines. Our existence and growth depends entirely upon the rigidity with which we adhere to all the true and good in our system, and especially to all that is new and distinctly Chiropractic. If we lose our peculiar individuality we die!

There are a multitude of things in the philosophy of Chiropractic which are new and distinctive. These must and undoubtedly will be preserved by the force of truth and logic in them. It is with the more practical part of Chiropractic that the greatest danger lies. In our practice we have (amongst many others) three things which are original: adjustment, palpation and nerve-tracing.

The first is to Chiropractic what manipulation is to Osteopathy: the actual practice which differs from the medical profession and lends distinction. The second and third stand as positive advantages over any other system because there is nothing like them and because they have no analogies.

In palpation and nerve-tracing we are unique; and the greater the stress laid upon these, the greater and more assured is the success of Chiropractic. So important do we consider palpation that we are today devoting many weeks of each student's time during a course with us, to painstaking practice under careful instruction in this phase of our art.

To become an expert in palpation is not only to acquire proficiency in an art which in itself will well repay any efforts which may be expended upon it, but also to increase the percentage of success with cases by a great majority. On correct, accurate and painstaking palpation depends the giving of correct adjustments; and on your adjustment hinges your success or failure.

Two kinds of knowledge are necessary to expertness: the manual, muscular knowledge which enables one with long practice to receive, register and interpret impressions of size, distance, resistance, direction, etc., with incredibly greater accuracy and delicacy than any ordinary or untrained man could accomplish. The only way in which this can be acquired is by constant repetition of the acts of palpation.

Even the higher trained fingers of the most skillful blind man would avail nothing in palpation unless the palpater were thoroly aware of the weight and value of all the impressions received. Other things being equal, it is an exact law that the man with the greatest knowledge of the spinal column and of the art of palpation is the most successful and accurate palpater.

I shall mention a few facts which are most essential and some of the methods which have been proven most valuable, as well as the sources of error and imperfection which come to light during an experience with palpaters of all grades. By comparison of many palpaters we learn to distinguish the artist from the amateur and to weigh the various methods used according to their average results, and thus to determine a system of procedure which shall be at least approximately perfect and applicable to every case.

In preparing a subject for palpation let me first advise you to have him stripped to the waist, or at least to wear a garment which leaves the entire spine exposed at one time without any connecting bands of cloth across the spine at any point. This for reasons which will be made clear later.

In recording subluxations as found it has been found convenient at The P. S. C. to simplify the record as much as possible, which we do by the use of six capital letters on our records. Our records of today show the numbers of the vertebrae rather than the Chiropractic place such as A. P., etc. This is an improvement over the old system with which most of you are familiar in that it leaves no doubt in the mind of the palpater or any future adjuster who may wish to use the same record as to the exact vertebra intended and makes it possible always and positive to locate any subluxation specifically by a count. The letters used are the first letters of the words which indicate the directions, such as R. for right, P. for posterior, etc. The number of the vertebra is also abbreviated by a uniform system so that the third dorsal vertebra becomes on the record 3 D., the fourth cervical, 4 C., etc.

Thus a record which would once have read "H.P. Posterior Right Superior," now reads "2d D. P.R.S." This is shorter, easier and more definite, being a decided improvement in two ways over the old method. For the atlas, axis and sacrum we still retain the use of the vertebral name instead of the number, but such usage is optional with the recorder, one way being as easy and definite as another.

Today a P. S. C. man is able to give an adjustment from a P. S. C. man's record and duplicate the original adjustment!

The wise palpater knows that a man who concentrates too closely on the minute details of his work loses the sense of proportion and fails to get the necessary knowledge of the spine thru lack of a proper perspective. A man walking on the surface of the earth is unaware of its rotundity, and on the same principle a palpater relying only on the three vertebrae group method may overlook the existence of a pronounced scoliosis while carefully comparing and analyzing the position of every single vertebra in it in relation to the ones above and below.

Visual examination should precede the manual palpation and the general outline of the spine should be carefully observed for the detection of curves, single subluxations or irregular groups prominent enough to be observed with the eye. This survey should include also the color of the skin and its moistness or dryness, the existence of spots or eruptions which indicate the existance of liver or kidney trouble, and thus lead us unerringly to one or two of the principal subluxations in that spine.

Today more stress is placed upon the count of the spine than at any previous time in the history of the profession. There are several excellent reasons for this. First, a count of vertebrae for the purpose of locating a subluxation listed in the record, if made when the patient is prone upon the table, must agree with the count as made with the patient sitting or there is a wrong adjustment. It is necessary to establish a fixed habit of accurate counting. Second, the interpretations of impressions of size, direction, relative posteriority, etc., often depend upon our previously formed opinion as to which vertebra we are considering. As an example take a possible confusion of a fourth with a third cervical. If the vertebra in question is the fourth we might pass it by as normal, whereas if we knew it to be a third we should consider it badly subluxated. The third is normally much less prominent and easily palpated than the fourth. Sometimes the only way of establishing this is by a count of the vertebrae below.

Again, it is necessary to locate the comparatively fixed and stationary 7th C. in connection with the external occipital protuberance to establish the exact location of an imaginary median line from which to note deviations. While the 7th is usually V.P. and the first D. a broader, flatter process, one may conclude without further count that he has palpated the 6th cervical. But if, as is often the case, the 6th, 7th and 1st are much alike, it becomes necessary to complete the count. If, on reaching the sacrum, one finds that the space between the 5th lumbar is distinct and the lower lumbar vertebra easily palpable, and that a line drawn between the crests of the ilium crosses the interspace between the 3rd and 4th L. one can easily determine the number of the first vertebra palpated below the axis to be either three or four. must be remembered that the third is not always palpable, but may be very distinct.

The landmarks by which a palpater verifies his count is a line drawn between the inferior angles of the scapulae, and crossing usually the 7th and 8th dorsals, the 12th rib, which may be followed upward and inward to a point between the spinous processes of the 11th and 12th dorsal. the inter-iliac line mentioned above, and the V.P. Of these none is absolutely reliable, altho the relation of the ilii to the lumbar is the most constant, being reliable in about 95 per cent of all cases, with the patient sitting erect. Note these things when making first count and also take cognizance of certain badly subluxated vertebrae which will determine your choice of other vertebrae in the same region. For example, as you run your fingers down the spine, recording in your mind the numbers and that pictures of the vertebrae which pass under your touch, you will emphasize more strongly the picture of the unusual ones. "There appeared to be an ankylosis of the 7th and 8th dorsal; the 11th dorsal was very much P.R.; the 12th feels like a lumbar," etc., will be the impression you will get and hold.

It is hardly possible in counting to determine everything that is necessary about all the vertebrae, altho the salient points will be maintained.

A test of this statement was made recently and the record made in about forty seconds during the single count was a 60 per cent record: that is, out of ten subluxations in the spine three were omitted and an error was made on one. It is possible to develop such accuracy along that line by continued practice that the complete and perfect record could be made from the count alone, tho hardly within the limits of an ordinary course in school.

When we proceed to the detailed work there are several methods that may be employed. The first is to proceed from the axis downward steadily, keeping in mind only one, two, or at most three vertebrae at a time, bearing also in mind the positions of the ones below and above in judging the one under immediate examination. And, second, the "Group Method" consists in dividing the spine into groups of four or five vertebrae each and the consideration of each vertebra as a member of a group, the listing of which depends upon the positions of

all the others in that group. For instance, it is convenient to consider the cervical vertebrae below the atlas as the first group and to glide the fingers over all the cervical before determining the recording of any.

Let us take a hypothetical case in which the fifth is the most prominently subluxated and perhaps the key to all the difficulties in that particular case. Without the group method this fact would be unknown until after the palpation and perhaps the erroneous listing of the fourth.

We understand the impossibility of adjusting two vertebrae in succession. We know the proneness of the human mind to magnify the latest impression it has acquired, to the exclusion of the reception of a contrary impression which may immediately follow. Hence the single vertebra method often leads to the recording of the wrong subluxation and consequently to wrong adjustment.

A more proper way would have been to determine in the beginning the predominance of the fifth and then to govern the choice of others accordingly. The absolute necessity for an adjustment of the fifth at once rules out the fourth and sixth and leaves it possible only to judge between the relative prominence of the axis and third, the only others which could be taken.

The same reasoning should be applied to the other segments of the spine. The group method requires more concentration and implies accuracy in the count, but its results justify its use. It enables one to retain the sense of proportionate values which is unfortunately so often lost in the hasty and unscientific palpations of the amateur.

Having outlined the basis and the proper method in general, let us now take up the more detailed work.

The atlas is in a class by itself owing to the absence of a spinous process and the palpability of two transverses, and so requires different rules of action than the rest. It is true there is greater uncertainty and less sureness and accuracy thru the profession at large about atlas palpation than about any other vertebra. The keenness and delicacy of touch required here are more than with any other except the third cervical; the landmarks from which deductions as to distance and direction are to be made are less advantageously placed in connection

with this work than elsewhere. The tenderness of the patient at this point is probably greater. Altogether it is the most difficult palpation we have to make.

The technique of atlas palpation merits separate description. We consider the atlas with the head in three positions—erect face forward, flexed forward on chest, and flexed backward as far as possible without unnecessary strain to the neck muscles. The first position is the preferable one and more likely to give correct impressions. In doubtful cases by flexing the head backward the laterally prominent side appears more apparent.

The first point determined is the laterality of the atlas as a whole, described on the record as R. or L. Then the prominent transverse is compared with its fellow to determine whether it is anterior or posterior listed as A. or P. It is then decided whether it is superior or inferior by comparison with the other transverse, and the palpation is complete. These points are discovered by finding the position of the tip of the transverse process on either side in relation to the mastoid process of the temporal bone and to the mandible in front. These are taken as guide points from which to measure distance and thus compare position. In atlas palpation three fingers are used, as elsewhere, and the second finger is the one placed on the tip of the transverse process.

It is essential that a palpater cultivate a light and delicate touch for this especially, because heavy palpation always or nearly always is a source of keen pain to the patient. The really skilled workman, the artist in palpation, is he whose hands glide lightly and smoothly over the spine, feeling everything he touches distinctly and yet making no unpleasant impressions on his patient.

Cervical palpation, below the atlas, may be considered under one head. The essentials are the gliding motion of three fingers, keen touch, quick and accurate reasoning, and a knowledge of the changes made in positions of vertebrae by changes in position of the head. It is well to bear in mind that the third cervical is frequently obscure and likely to be overlooked and that the fourth cervical is the second subluxation in frequency in the spine.

The first most prominent spinous process is the projecting spinous process on the axis, and the second is the

spinous process of the fourth below, while the second occurs because of the location of the fourth at a middle.

These tendencies should be remembered when deciding between two apparently equal subluxations, only one of which can be adjusted on account of their proximity. Also, nerve-tracing and symptomatology will be a knowledge of the usual effects following each subluxation, will help you to decide which to choose. It is sometimes difficult to decide between the atlas and axis in this This is because of the lack of enough similarity of position and shape to afford proper basis for compari-The same is true of the axis and 3d C. As a matter of absolute fact, no advice or instruction will be of any use here because the judgment in such cases must be purely a matter of experience. Your decision depends upon such indescribable conditions as the relation of height and weight of the patient, the general size of his bones, comparative length of his neck, subluxations above and below the point in question, etc. The master palpater instinctively, as it were, weighs and analyzes such conditions and reaches an accurate conclusion which involves dozens of points of observation. The amateur must perforce work somewhat in the dark until he acquires experience and formulates a changeable mental picture of the normal cervicals to fit every kind and type of body that he may meet.

Lastly, in regard to the cervicals, let me urge you not to overlook palpation of the 7th as of any other, from the habit of thinking that it cannot be subluxated. We will refer to this again under sources of error.

Personal palpation is the easiest of all because of the normal posterior curve and the consequent exposure of the spinous processes to the touch. It is also easier in the dorsal to verify your palpation in case of doubt by the palpation of the transverse processes as well as the spinous. Fewer errors occur in the dorsal than in the cervical or the lumbar division.

The best method is to divide the dorsals into three groups of four vertebrae each, sometimes taking five in each group and making the groups overlap; as the consideration of 1, 2, 3, 4 and 5 as the first, 5, 6, 7, 8, 9 as the second, 8, 9, 10, 11 and 12 as the third. In each group three vertebrae may be listed. Also in each there will be

found one more prominent than the others which will serve as a key to that group. For instance, in the first group you may find a very prominent posterior third dorsal of which the adjustment is imperative, If you had worked downward, listing everything as it appeared, you might have listed the second, which would have precluded the possibility of listing the third. But with this method of considering vertebrae in groups you are able to determine relative degrees and choose the worst subluxations without any waste time or revision of records. Having ascertained that the third must be adjusted, it only remains to decide whether or not you wish to list the first as subluxated. The second and first have been eliminated by your choice of the third. The same method will apply to all groups.

In the second group the 7th dorsal is the most frequent subluxation, in the third group the 11th, by a slight margin.

In the middle dorsals it is usually easy to palpate the transverse processes and thus verify your work. The method by which this is done is as follows: Using three fingers as in ordinary palpation, glide downward over the transverse processes and determine which ones appear the most posterior on either side. Remember that the transverse process belonging with a certain spinous process will be found about an inch to one side, and from an inch to an inch and a half above the latter, according to the location of the vertebrae in question. With the upper dorsals the transverses are not so far above the spinous processes as in the middle dorsal, and in the lower dorsal the difference is again less. If a left transverse be more posterior than the corresponding right one, the vertebra is right; if the right is more prominent, then the vertebra is left. It is easy to see and to remember this by picturing a spine denuded of flesh and a single vertebra rotated so that the spinous process is left. The spinous process is fixed to the rest of the bone so that the whole bone must turn, and with this turning the transverse on the side toward the spinous process has moved will become the most posterior.

This palpation is chiefly used when a bent spinous process is suspected. The entire lumbar region should be considered as one group, including the sacrum. If the

12th dorsal has already been listed it is necessary to eliminate the first lumbar from the possibilities for adjustment and to use it only as one of the three vertebrae. compared in deciding about the second.

First, let the fingers glide gently over the entire group of posterior aspect, and decide which is the most posterior one. Then use that as the basis for your choice of others. Usually it is not well to list more than two in the lumbar region, altho in some cases three must be chosen. Take into consideration a possible curvature and that a decidedly lateral vertebra in a scoliosis may be as much posterior as the one above or below and yet not appear so to the touch on account of its rotation outward from the median line.

The anterior lumbar curve should be regular and even and the first sacral spinous process should complete the curve of the five lumbar processes. Difficult choices may occur in the lumbar in the scoliosis as mentioned above; or between two equally posterior vertebrae which are adjacent; or whenever there is a kyphosis to compensate for a lordosis above, it may be hard to tell just where the greatest pressure is. The rule is to consider. in such cases, each vertebra in turn as the middle one of the group of three, and by the gliding movement estimate where the greatest or most sudden deviation from the curve occurs. That is, a third lumbar which, in the light of the kyphotic curve is the most posterior of the whole spine to an ideal median line of a normal person, may not have as great pressure at its superior and inferior foramina as the 2d above on account of the fact that there is a greater and more sudden change between the first and second than between the 2d and 3d or the 3d and 4th.

The sacrum is listed as posterior at the base or at the apex, as the case may be, and the comparison is made with the curve of the 3d, 4th and 5th lumbar or with the 4th and 5th alone. Some practice is necessary to estimate the exact position of the sacrum because it practically maintains its iliac articulations even when it is subluxated in relation to the 5th. Be careful to discriminate between the 5th and the anterior base of the sacrum. Tenderness between the 5th and sacrum almost always accompanies a posterior subluxation of the sacral base.

It is well that we know something about the relative frequency of subluxations and the things which are most commonly found. Perhaps the list of figures which I am about to present will contain some surprises even to the experienced palpaters among you. I am aware that nothing of this sort has ever been done before because never before has *The P. S. C.* had the facilities for the compilation of such statistics. Therefore I presume that they should be of great interest to the profession.

The following table was computed from examination of three hundred P. S. C. clinic record sheets and is as authentic as the best skill of $The\ P$. S. C. can contrive. These records were all verified by $The\ P$. S. C. faculty.

RELATIVE FREQUENCY OF SUBLUXATIONS IN 213 P. S. C. CASES EXAMINED FROM MAY 3 TO AUGUST 6, 1909.

•	
	160
Axis	55
3 C	26
4 C	$\lfloor 22 \rfloor$
5 C	41
6 C	110
7 C	3
	106
	75
3 D	89
4 D	96
5 D	68
6 D	74
7 D	.01
8 D	77
9 D	63
10 D	84
	89
11 D	-
12 D	82
1 L	90
2 L	98
3 L	79
	84
	73
0 11	-
Sacrum	7±

Total number of subluxations, 2,019. Average number of subluxations per case, 9½.

From this list it may be observed that the atlas ranks first in frequency and that the 4th cervical follows it closely. It may be a surprise to some of you to note that the 6th C. stands next with 110 and the 1 D. 4th with 106. It means that owing to the fixity of the 7th cervical and the fact that we have formed the habit of overlooking it, there are some cases in which we list the 6th and 1st, when we might have taken the 7th C. and saved the adjustment of one vertebra without materially affecting the result.

At S. P. the 7th dorsal is the most frequent subluxation in the ratio of 101 to 74. At K. P. the 11th and in the lumbar the 2d lead the others by slight margins. The 5th and the sacrum divide the responsibility for pressures between them almost equally—73, 74.

There are five chief sources of error in palpation to which all of us are likely to fall victims and with which we should all be acquainted and on guard against. These are habit, wrong position of the patient or failure to allow for same in making calculations, inability to use both hands or to use one hand with proper skill and facility, close decisions in which we fail to use enough care in deciding, disregard of form-change in various sections of the spine, and the bent spinous process. These are listed in what seem to me to be the order of their importance. Let us consider each in turn.

Every palpater unconsciously forms habits of thot and action in finding certain subluxations because they are unusual or expected rather than because they are actually present and felt. He thinks wrongly or in a rut. It is practically impossible to avoid this tendency in anything. If the right habits are formed in the beginning the palpater is very likely to be always successful, but if in the commencement of palpation the wrong habits are formed it is probable that they will never be eradicated.

Another instance is the 7th cervical. At one time we held the idea that a subluxation of the 7th cervical was a very infrequent occurrence because of its comparative fixity, and I believe that in many cases a subluxation there was overlooked. It is still a fact that the 7th is listed with less frequency than any other vertebra in the spine, but this is perfectly reasonable; it is the most

fixed of all. Yet today we are occasionally listing the 7th and always giving it the same attention that we give all others. We are looking for every subluxation of the 7th and consequently finding some which we would once have overlooked.

This tendency to form habits of thot must be carefully watched by every palpater. Eternal vigilance is the keynote of successful palpation. There are certain habits of using the hands which are very bad and which are all too frequent. For instance, the habit of using two fingers instead of three, or drawing the hand downward over the spine with the wrist leading so that the fingers are not at right angles to the spine; this is especially confusing and yet so slight a deviation from the correct method that many who are subject to this habit are at a loss to account for the failures which lie at its door. Another bad habit is that of a vibratory or massage movement over the spinous process of a vertebra, up and down or laterally, which can only result in confusion, and yet seems to the unthinking palpater to contribute to his actual knowledge of a process. The only way in which the position of any vertebra can be determined is by comparison. This comparison can only be attained to the best advantage by a quite rapid running movement which fixes the impression on the mind as a line from which there is a deviation at a certain point and in a certain direction. As a general rule those who use the more rapid glide are the most accurate palpaters. Inability to use both hands with equal facility has caused many a failure of accurate palpation, both in those isolated cases in which the circumstances make it necessary to palpate from one side or the other alone, as with the bed-ridden patient, or in the general run of cases. Difficult choices are always made plainer by palpating first with one hand and then with the other and then comparing impressions. It is almost the same as a comparison of the impressions of two palpaters and of inestimable value in hard cases. Also a man who is doing a great deal of palpating sometimes becomes fatigued so that the impressions from his palpating fingers are less acute. Changing hands proves a rest and a distinct gain in accuracy.

Close decisions in themselves are often a source of error because a palpater fails to verify his decision by every means available. He might improve his work by palpating transverse processes; or by taking into consideration the curves in the spine and the other subluxations to a greater extent. Sometimes every bit of knowledge and every means of judging in a palpater's possession are called forth by a single choice.

There are certain changes in the posteriority of the vertebra, due to their shape and position, which may be mistaken by the untrained man for subluxations. For instance, at the 7th or 8th dorsal begins a straightening up of the oblique spinous processes which always gives to one vertebra there an appearance of posteriority. At the 7th cervical or 1st dorsal is found the V.P., a large and broad spinous process which projects beyond its fellow because of its greater size. Most often a large and normal 1st dorsal is mistaken for a subluxated vertebra because it appears more prominent than the 7th cervical, when it is only the V.P. in that particular case.

There is in almost every case a sudden decrease in relative prominence of processes between the 1st and 2d dorsal. This may occur between the 7th and 1st or between the 1st and 2d dorsal. This may occur between the 7th and 1st or between the 2d and 3d, but is present at about the region in all cases and should be reckoned with; and it must be remembered here also that the 12th dorsal may take on all the characteristics in appearance of a lumbar vertebra. The 4th and 5th lumbar are less prominent normally to the touch than the first three. There are a multitude of little things which might be mentioned in this connection, but it is sufficient that I cite you the principle and a few illustrations and leave the rest to your intelligence.

Lastly, the bent spinous process causes many errors. Usually the bent process will be suspected by the palpater, if he be alert, when his fingers pass down the lateral aspect of the process. It can then be made plain by palpation of the transverses. Sometimes, however, it is necessary to bring in nerve-tracing and a knowledge of the symptomatology of a case to reach a conclusion. Your analysis is the best guide to such decisions.

The end and aim of palpation is to determine the means by which pressure on nerves can be moved with the greatest rapidity and sureness. It is the means by which you ascertain the location of the greatest pressure. It consists properly in such a study of the vertebral column as will fix in your minds a clear thot-picture of the impinged nerves thruout that column. The object of every move and every that is to determine that one point. Is this nerve impinged and to what extent? What adjustment, and in what direction, will free the nerves the most rapidly? It is that which decides every choice—which governs your record, which should be so constructed that by adjusting according to it you can do your patient the greatest possible good in the least possible time.

For this reason it is my opinion that the most important part of the study of Chiropractic consists in thoro drills on palpation and adjusting. The life of the patient depends upon your adjustments and the adjustments rest upon your palpation. No man can know too much about palpation; that is, no man who expects to adjust the spine. I am aware that this phase has been neglected by many and that many men who hold a Chiropractic diploma know and use only a few of the facts which they should know and use in palpation.

CHAPTER III.

SPINAL CORD IMPINGEMENTS.

I am going to again revolutionize things with another addition. I say "revolutionize" because it increases our capacity for explanation of our work. Not that the idea doubles our capacity for delivery, for that it will not do, but it will multiply our explanations we have had to confront. We have dealt with man on a very practical basis with the adjustments of vertebrae, but in doing so we have accomplished much work for which we could not or at least have not formed any last analysis explanation. Because we couldn't—we didn't know what to offer. we had known what to offer in answering questions, we could have told how. In our P. S. C. work, existing as we do behind the Chiropractic scenes, there are no questions answered. In Chiropractic we have assembled a few that are answered, but there are still many unsolved. How far this new idea will answer the remainder will be determined by its practical application to the theories that now exist.

To present a picture which you can grasp, suppose at Brady and First street we had a telephone central. That central issued forth 1,000 pairs of telephone wires. This goes to ten continuous blocks, 100 pairs to each. In the first block 100 pairs of wires would issue, 50 on the right and an equal number on the left. The same would be true of the next block, etc. Suppose a report reached central that 25 phones in blocks 4 to 7, inclusive, on each side were "on the bum," where would you expect to look for the cause, taking it for granted that the given condition in all phones were of a like character? Naturally—at the point where the first pairs gone wrong left the cable, which would be at the 4th street. Thus a cause found there would rectify all the given like conditions below it.

About fourteen years ago the idea was advanced that the vertebral subluxation was the cause of disease. The idea of currents came later and we changed from a material to an immaterial cause as "cause" is a word abstract in thot; in expression and expresses purely abstract conditions, consequently it is improper and incorrect to apply abstract terms to concrete conditions. You might say the "hot water pipe" as hot-water and pipe cannot be the same at the same time. A subluxation is not "the cause of disease," because "subluxation" implies a disarrangement of one vertebra upon another, and this disarrangement could and does exist in dead people in which there are no diseases, consequently the application can only be applied to the live man and the discrimination, then, between death and health-ease or disease is the relative presence and absence of life. To apply the term "cause of disease" we apply it to a live man and living implies that there are currents present or partially absent, consequently the cause of disease is the absence or excess of currents.

Taking the words vertebral *subluxation*, it implies, to us, a condition of pressure upon nerves as they emit through the intervertebral foramina.

You have been taught continuously that a subluxation was of value only so far as it produced a pressure upon nerves having their exit from the intervertebral foramina, that subluxations had nothing to do with sympathetic ganglia strung along the outsides of this column for ganglia are composed of ends of fibers that never enter the spinal column, consequently pressure upon the specific foramina would not interfere with the functions of sympathetic ganglia in their course or functions. You have been taught further to observe the specific effect that followed specific pressure induced by a specific subluxation of one vertebra upon another, only so far as that subluxation interfered with the transmission of currents as they flowed from or toward the brain as they passed over or thru nerves that went thru this decreased size intervertebral foramina, and if you have been at all close observing you have found that this practical fact did not nor could not answer all of the problems and questions that come to your mind as regards the why of diseases wherein there was a general condition, having a given like condition variously distributed in various portions of the body, yet having a one common cause, for its very shifting character would prove that. There are many diseases which are not specific in their character, consequently the specific subluxation or specific adjustment did not answer the question as to why the general condition or the why of an apparent "general cause" because cause and effect do go together. To have 50

per cent effect proves 50 per cent cause. Cause and effect balance. Our object is to see where they do not balance, why an excess upon one side or the other, and then adjust them to a point of balancing. That is all the Chiropractor does to man.

You have been taught that every subluxation produced disease only so far as it produced pressure (constriction) upon nerves emitting through intervertebral foramina. We are, today, willing, ready and grown enough to add to that. I do not wish to destroy the old idea or take away an iota so far as it has gone. It has been practical, but there is much that that idea has not worked out, consequently there is another viewpoint to be observed.

I have been led to believe certain results because of their practical application and one of the most convincing is Chiropractic nerve tracing, yet even the most accurate and careful work here has led us to many stumps. There are results reached without our knowing why or how. One case traced recently carries the point in question. According to the metric system, man is divisible into 25 zones. Between each vertemere issues a neuromere. One case recently proved that tender nerves were traceable directly from effects to each vertemere, hence he had a completely nerve tracing record of 24 neuromeres. only subluxation was his axis. No tender nerves were traceable above the inferior portion of the axis and from that point downward began his troubles. Adjustments are being given at that point and it is changing his entire condition below. Another case I adjusted last evening of the 5th cervical produced a pleasant sensation up and down the spine and run out to various organs below which had been similarly affected. The adjustment of that vertebra alone has restored function to many viscera below.

There are many diseases for which a specific subluxation produced no general change, for example, we have traced tender nerves into and between vertebrae that were as nearly normal as our every means of so determining could ascertain. Of course, the inevitable might have occurred by there being a subluxation not noticeable, but still we have given the case the benefit of the doubt and adjusted those places with no apparent change. Often times heretofore, what we considered a specific subluxation was not the cause of a general condition as commonly understood; that a specific subluxation produced a pressure upon nerves emitting through an intervertebral foramina and thereby seemed to in some way generalize its function over one-half a body. A given illustration I want to call your attention to is hemiplegia, left or right. We have taught that C. P. subluxation, interfering with the currents going to the right or left side, produced hemiplegia. We have taught you that K. P. subluxation interfered with a general serious circulatory condition. This is all true so far as it has gone, but the exclusive aim of your observation has been to understand that an encroached lumen existed at the lateral intervertebral foramina.

The question arises, what do we mean by "pressure upon nerves." We have always utilized this in the sense of a constriction—making smaller the lumen of the nerves. You well know that the lateral intervertebral foramina is composed of two halves, an upper and a lower half, and that it is the disarrangement of one part upon the other that made that opening smaller and by making the opening smaller it produced a pressure upon the nerve, and by so doing has interfered with the transmitting capacity of the nerves, thereby interfering with or impeding the transmission of mental impulse courrents from brain to tissue cell. Pressure in its last analysis is a constriction; nor do I wish to change that fundamental at this time. It will remain the same.

The intervertebral foramina emits a certain number of fibers. There are thirty openings on each side of a spinal column. This makes sixty openings on a given vertebral column. Suppose, hypothetically, that each opening emited 1,000 fibers. Beginning, then, at the first pair of openings above we would pass out 2,000 fibers, 1,000 on each side. This would leave at the spinal cord, opposite the second opening, 58,000 fibers. Two thousand passing out at the next pair of openings you would have 56,000, consequently at the last pair of openings you would have but 2,000 fibers in the spinal cord and 2,000 passing out there would leave no spinal cord below the last opening. While the figures and quantity are not correct, for you have a cauda equina, which proceeds

downward between the second and third lumbar, so do fibers go into the sacral openings to pass out the posterior and anterior foramina. The idea I want to give is, the farther down the cord you observe, the less number of fibers pass out, consequently the largest number of fibers is next to the magnum foramen; the smallest number is at the inferior portion of the spinal cord.

We have met many problems and few have been For instance, a man the other day receiving a blow at the fourth dorsal was paralyzed from that down; all action ceased so far as superficial function was concerned. The kidneys, stomach, spleen, bladder, generative organs all worked freely. The only loss of action noticed was paralysis of superficial educated muscles and educated feeling of the skin. This is a distinction between the lack of educated control, yet a presence of the Innate function. The conclusion, according to the specific subluxation theory, is the necessity to adjust every zone to restore function to the superficial muscles in each zone because of a specific exit of the nerves from a specific intervertebral foramina which would go to but a specific locality. For instance, we will take the leg as the twentyfifth zone. That leg being paralyzed in the educated muscles and educated feeling and, according to the specific idea, you would find a subluxation of fifth lumbar and that would need to be adjusted to restore its function. You examine that lumbar and find no 25th vertemere subluxation and find no pressure upon nerves at that particular point; consequently you are at a loss to know what to do. If you analyzed the case you would reach the conclusion that that blow upon the fourth dorsal produced pressure upon something more complex and multiplied, consequently paralysis existed in everything below. The question at issue is what is that "some thing;" how was the pressure made; why was there a discrimination between the two classifications of functions ("voluntary" and "involuntary"), and what is the difference in structure to produce the different effects. What is the change in cause to produce the variance in effect? If you adjusted the fourth dorsal vertebra everything in function would be restored below that. Why?

The question is why should a fourth dorsal alone restore function to all of the region below? Your records

will prove, if you have analyzed cases carefully, that you will have a case of constipation; case of bladder trouble and a case of generative organs and in *some* cases all your adjustments in the lumbar region have availed nothing. According to the specific idea you would find a subluxation in the lumbar region which was producing a pressure upon those specific nerves as they came out of specific intervertebral foramina to specific organs, but, as I say, your analysis proves nothing in the lumbar regions and you are at a loss to know what to do or how.

I am giving those two cases as specific examples. If you will perform only specific work there are certain cases in which it is non-applicable. Some cases you will adjust at K. P. and get no relief for kidney disease, other cases you will adjust there and there alone and get splendid results. Other cases adjust lumbar vertebrae and you will get no change in results of actions of bowels, bladder, generative organs and you wonder why—and again you will adjust there specifically and get specific results.

Within the last two years, in our clinic work, we have not been doing the quantity of specific work that we used to. By "specific work" is meant the adjusting of only one vertebra in a spine on each case for an extended period—to prove its connection or disconnection with the disease. When we were working out a tabulation of the spine to get "K. P."—"S. P."—etc., we did that work exclusively. Having determined those, we found it unnecessary to continue a single specific adjustment, hence today we adjust multiple (many) specific subluxations. This tends to confusion when a new idea arises, consequently you could not observe these facts as we have, but nevertheless facts exist because, bringing a patient up here as you will, you are adjusting all the subluxations so when we tell you "a K. P. subluxation produces kidney trouble," you rely upon evidence, wisdom, experience and observations of those gone before. Consequently you get the idea that a K. P. subluxation affects the kidneys because of the pressure that exists upon the nerves as they exit thru the intervertebral foramina on the sides of vertebrae.

An adjustment at the atlas and there alone has restored function, in the heart, lungs, kidneys and bowels and I could go through an endless series of complica-

tions of this kind to the extent that the question has arisen, why is this so?

You have a common impression existing in your mind and it brings up the "sympathetic question." Why is it that the stomach is affected when the heart is? When the heart seems to be palpitating very strongly we have trouble in the stomach at the same time. You Chiropractically reach the conclusion H. P. subluxation and S. P. subluxation together. This might, could and would be so in given cases, but not always. What about the exceptions? If this idea of specific does not hold, then what will? Is there a specific kind of work of another character at another place which makes this effect? A specific effect it is, then specific cause it must have—we thot we had it but find we havn't, then where is it? If it isn't one place it must be in another.

We answer the why of some of these "phenomena," to us, so far as we cannot explain, a given condition which exists. If we can explain it then it ceases to bear any peculiarities or peculiar phases; it becomes commonplace and everything that becomes common is explainable and a state explainable to the finite mind ceases to be wonderful or mysterious, consequently I offer something which will take the place of many "phenomenal" ideas.

You must have a something soft impinged by two somethings hard to obstruct current flowing between the brain and the tissue cell. A hose is soft and passes water —to impinge this with a foot on one side and the hard earth on the other is to flatten the hose until the flow of water is stopped. The spinal cord passes through the spinal foramen. You, who have studied an atlas, can draw a picture of what the spinal foramen looks like when the odontoid process is in position. Draw in your minds the shape of the foramen, then picture the changed shape of the spinal foramen in the axis. Here are two bones, one on top of another. There are two changed spinal foramen shapes, yet when the atlas sets exactly on top of the axis we find the shapes correspond and are alike, but subluxate this atlas, if you will, to the right or left and by so doing you produce a constriction in the true sense of pressure upon that spinal cord as is passes between the inferior surface of the atlas and the superior surface of the axis. You are moving one bone to one

side of the other and impinging that spinal cord just as much, in fact, more, as it passes through there than if you picked out some particular spinal nerve as it passes out from the spinal cord. This exists as a pair of windows, one above and the other below, between them passes the spinal cord. If one is exactly above the other then the size of both is the same, but slightly twist one on the other and the shape of the passage changes to the extent that a constriction exists between them. The constriction is not at the atlas nor is it at the axis, but between them. How much his proves to be a constriction depends upon how much of a subluxation you have. That is, the subluxation of that bone may produce pressure purely upon some of the fibers on the right side of the spinal cord. These particular fibers come through that spinal cord, go the 12th dorsal, pass outward and end in the kidneys and you wonder why an atlas subluxation makes kidney trouble. In other words, it makes no difference where the constriction is, a constriction is a constriction and where it is does not modify the original condition of shutting off or hindering the transmission of currents. As an illustration, suppose it is ten feet between the dynamo and motor and a pair of wires connect them. It makes no difference whether you interject a rheostat one, two. three, 7 or 9 feet from the dynamo, the effect at the motor would be the same. This is also true of man. Those nerves, coming from the brain, go thru the spinal foramen, and it makes no difference whether the pressure be at the atlas, 7th cervical, 10th dorsal or 12th dorsal so long as the pressure is there without modifications. That is, if the same kind of a pressure is transferred from the 12th intervertebral foramina to an atlas spinal foramen pressure, the other conditions being equal, the effect will be the same at the periphery. The question is, are the other conditions equal? Pressures are possible; look at vour spine and see. Interferences can exist, hence lack of function. Lack of expression would be only at periphery, hence the tips of nerves would but show effects. The starting and ending of nerves are equal to the original basis, but the location pressure is now subject to change to any place between the source and the periphery.

Take a given irrigation system. Your mountain is in one place and your lead and periphery pipes are vari-

ously distributed. Let a tree fall across and dam a feed pipe ten miles long, it makes no difference where that tree falls, the effects at the ends of the pipes will be the same, taking it for granted that the obstruction is the same in quantity and size. If that subluxation is great enough you may produce a pressure upon some fibers on the left as they are going on their way to the heart. You wonder why under specific work of adjusting one vertebra only for an extended time you failed and you more than wonder why an atlas adjustment restored the function of the heart and the right kidney and made them well.

You don't need to confine this idea to an axis and The same condition can exist between the atlas and third cervical; the third cervical and the fourth or between any two consecutive vertebrae of a spinal col-It is not possible at the 12th dorsal to produce pressure upon nerves which go to the heart because the heart fibers have already left the spinal cord at a higher point, consequently they are not there to have pressure upon. When you get a subluxation at the 12th dorsal you might notice any abnormal conditions existing from that 12th dorsal down according to how much it may be producing a pressure upon the spinal cord. You cannot affect peripheres where they have existed from the cord at a point above the now subluxated vertebra. Where it may be producing pressure upon this spinal cord depends upon what kind of a subluxation you have. If you have a picture of these foramina as they are between two vertebrae you can find that the spinal cord would be passing through them nicely, for it is true the inferior surface of one spinal foramen and the superior surface of the contiguous spinal foramen form an intervertebral spinal foramina for the spinal cord on the same basis as the lateral intervertebral foramina are formed. The fundamental remains the same. Look at two vertebrae, the only difference is that the openings are flat and face upward and downward and the other opening is standing on edge and faces from left to right. You have a posterior subluxation from above downward, compare the positions of the two and one is more posterior. opening between these two vertebrae is smaller than it is between two vertebrae that are below where one is in exact relation with the other. There is then a

pressure upon the rear portion on the superior surface of the lower vertebra, and also pressure on the anterior portion of the inferior surface of the vertebra above. Make a right subluxation and you are producing a pressure upon the left of that spinal cord; produce a left subluxation and you are producing pressure upon the right of that spinal cord. Consequently you can see the endless combinations of conditions that ensue from the many subluxations which exist in combination from the atlas above to the sacrum below. It would be not uncommon to say you might have a 12th dorsal subluxation and be able to trace tender fibers from every one of the inferior lateral intervertebral foramina and yet not find a subluxation in any lumbar vertebra. That can all be possible and it would seem then that an adjustment at these points would be entirely unnecessary because the disarrangement of material conditions and the specific multiple pressure is at the 12th dorsal.

I will repeat to get this clear in your mind. We can have two kinds of intervertebral foramina where pressure or constriction upon nerves can exist; one is upon the left and the other upon the right side between vertebrae commonly known as the "intervertebral foramina" but which we must designate now as the lateral intervertebral foramina. The second is the intervertebral foramina that exists between the two vertebrae bounded on the superior by the inferior surface of the spinal foramen of the vertebra above and bounded on the inferior by the superior surface of the bone below, and any consequential abnormality or material disarrangement of these two vertebrae, one upon the other, makes a constriction upon the spinal cord passing down one to the other. In the lateral pressure, we have but a few nerves involved, hence, while the effects are multiple, yet compared with the other effects we would call this a single pressure with single effect pressure. The perpendicular pressure would create multiple pressures, that is, upon many sets of "spinal nerves," hence the effects would be multiple effects. This becomes now our perpendicular intervertebral foramina—the intervertebral foramina existing from above downward.

The application of this idea under adjustment will be the same as you have always been doing. I know no necessity for changing even though I have raised the question and solved the problem of detecting this fact. We must use judgment in detecting subluxations and adjusting them in the future as we have done in the past. It is possible to have a slight disarrangement of the lumbar vertebrae and not be producing pressure upon the lateral intervertebral foramina. This explains why it is that a subluxation resulting from a blow delivered at the 10th dorsal paralyzes everything below because it shuts off function going through the spinal cord from that point on.

In point of importance I would place the atlas first and each succeeding one, coming down, next. At the first mentioned place the opening is more crowded with more fibers. It is a peculiar fact that even though more fibers pass through the spinal foramen at this place, the opening is comparingly smaller, thus any subluxation tends to make itself more felt. A slighter subluxation could exist in the atlas and make more trouble than a greater degree of subluxation would in the lumbar region, because of the difference in the number of fibers, the difference in sizes and shapes of openings, etc.

We have had the opinion handed down by medical men that vertebral subluxations were impossible without fracture or death as a consequence and that idea ruled the world to such an extent that a new science advocating that vertebral subluxations were of frequent occurrence had a slow growth. We have proved to the satisfaction of the scientific world, who have investigated it, that this is a reliable and trustworthy fact and they rely upon it to the extent that anatomists are granting today that vertebrae can be subluxated. Later we advocated the theory that subluxations did produce pressure (without fracture or death) upon nerves as they emitted from the sides of vertebrae. Now, we can take it one step further and say that subluxations, which would diminish the size of lateral foramina would, by the fact of subluxation of bone on bone, diminish the size of the opening from above downward on that spinal cord (without fracture or death), consequently this opens up a larger and broader view point.

Take your spinal column and look, not from side to side, and study the size of those superior and inferior

foramina and how they are diminished, change the position of one vetebra upon another, and look from above downward and study the change it makes when you get a posterior subluxation on the size of the spinal opening not in each vertebra but the changed position between the openings of the one and the other and you can see the difference that would make. Then produce left and right subluxations and you will find these changed positions do produce multiple specific pressure here or there upon that spinal cord for, understand, this spinal cord is more carefully regulated and more subject to pressure than lateral subluxations, because vertebrae are subject, in lateral subluxations to be separated, opening the window, but in this way the spinal cord is entirely surrounded by bone. There is no manner or way of it escaping pressure, consequently it means much to find just where this pressure is if we can. We are opening up a question which makes our logic more clear and application the same as it is today.

Think this over and study it in particular cases. You have seen cases of paralysis in the arms up to the elbows and in the legs up to the knees, perhaps taking in all of the legs and all the arms. You have heard that patient remark "Today it is in my left arm tomorrow it is in my right leg." He will tell you, "My rheumatism (—"rheuma" to flow—to jump about from place to place), or my paralysis seems to shift. The physician seeing this condition called it "Rheumatism." thing "flowed" from one arm to a leg consequently he got the idea that there was an excess of uric acid in the blood. That is, he examined the abnormal chemical conditions of the body and found there was too much uric acid, and he said, "This effect ceases to be an effect, it is a cause." We will find somewhere approximately the fifth or sixth cervical a subluxation producing pressure upon a certain portion of the spinal cord where the fibers pass downward and on their path to the arms and limbs. We can now see why it is that in the laying out of this spinal cord Innate Intelligence planned it according to a system—each lobe in a respective location. cables of fibers leave that lobe, on their way into the spinal cord, they are arranged and packed according to a definite and systematic arrangement. I believe it to be a fact that these fibers that are superficial to man (educational functions) are arranged superficially on the cord. They continue in that system until they get down to the place where they go out to the arm and later on to the leg. We can see why a subluxation at sixth cervical could produce pressure upon fibers going to the leg, consequently as that vertebra shifted day by day, which it does do more or less once or many times a day, we find the man saying "my rheumatism has shifted from here to there." Not only is this true in rheumatism or paralysis but also in many other diseases.

In watching the symptoms as man portrays and observes them in others, in his pathology, this universal condition seems to apply mostly to superficial conditions, but whatever it is they go together in sets. That is, if a man will tell you that he has stomach, liver, spleen, and bowel troubles, then you might look for one subluxation producing pressure on nerves going to all those regions. What I wish to do is to classify the difference between superficial and deep seated conditions each being separate and apart. In some portions of the spinal cord multiples of fibers are purely superficial. That is, those nerve fibers which go to the superficial portions of the body such as the arms, leg and skin seem to come from a specific portion of that spinal cord and other nerve fibers which go to the deep seated organs are superficial also, but at another portion of the cord.

The spinal cord, as pictured and taught is made up of peculiar forms. The spinal cord is circular in shape. What vivisection has portraved is of no value nor worth taking into consideration at this time because vivisection only proves things in live animals so far as they are dead and there can be no truth in the accuracy of such demonstrations made. If we could study the living cord I believe we would find it made up of four portions, two having to do with internal viscera and organs, and two having to do with superficial regions. If the subluxation were from side to side it would produce pressure upon nerves going to superficial portions of our body. pressure upon posterior or anterior portions it would produce pressure upon nerves leading to the viscera. We may have P.R.S. producing pressure upon a portion of viscera and superficial nerves. Study this idea from that basis and as you analyze man as he is from a pathological or symptomalogical standpoint you will find that this analysis will hold.

I am not offering this as a theory or as a question for you to question and decide against, but as a fact established because the last four or five months has been directed to proving that statement. I have done it quietly and watched it in the records of the clinic work presented here and I find there is more truth than fiction in the idea. Accept and make it a part of your study; a part of your observation of man and if at any time you get the desire to work it out on individual cases you will be surprised to see how many different multiple diseases in various portions of the body you will see rectified by a specific vertebral adjustment.

We, as Chiropractors, have been somewhat narrow in our view-point. We have held that it was impossible to produce pressure upon a spinal cord without fracturing a vertebra the same as the physician has said it is impossible to have a pressure at intervertebral foramina upon spinal nerves without a fracture. We went one step ahead by saying we could have vertebrae subluxated and we could have pressure upon nerves without fractures. Now we take a second fundamental step and say it is possible to have a subluxation of one vertebra upon another and to produce pressure upon the spinal cord at one or more points without fracture of either vertebra in that connection. This broadens our view-point again; makes us see much that we have not seen before and gives us a chance to explain things we could not explain on a specific plan. This does not destroy your specific idea, for supposing other subluxations existed above third lumbar, it would mean that you could still have a subluxation of a third lumbar and could produce a pressure upon nerves going out to the bowels and have constipation. By adjusting that third lumbar you could release the pressure, restore currents and correct the constipation. Therefore, third lumbar is a material representative of the cause of constinution in that case. The same could be true of atlas as the corporeal representative of the cause of insanity. H.P. for heart troubles; Lu.P for lung disorders. Each place retains its identity as a specific place providing that the subluxation and pressure is a local specific one. It is a specific subluxation if it is, but it might not be. It is possible, according to the last analysis, to have a subluxation above which may be producing a slight pressure upon the spinal cord making the same lower conditions.

If the hypothesis that we could have a pressure upon 1,000 fibers passing out through an intervertebral foramen is true by a subluxation of a vertebra; by a small opening, it is just as accurate to apply it to a large opening upon 10,000 fibers. The conditions that might ensue seem multiple. It is possible to produce pressure upon a soft hose between two hard in a horizontal position, then the same could be true between the same hose and same hard substances if they came together in a perpendicular direction. Electric wires could run on a level and a rheostat could be interjected and do much mischief and the same is true if those same wires were to run from above downward. If this is true of a hose of 1 inch in diameter then the same is true of one of 4 inches. Suppose the faucet is ten feet above ground and the flower bed is 25 feet to the right of a spot that would be just inferior to the faucet, it would take at least 35 feet of hose to reach from the faucet to the flower bed. Whether we produced pressure upon the 25 feet of horizontal hose or the ten feet of perpendicular hose would make little difference. If the reasoning which leads us to believe that pressure exists on the side of vertebrae is true then the same conditions could also be true even if the direction of pressure has been changed, providing everything else remains the same, which they do. A man can have subluxations whether he stands on his feet, head or lays down in bed—direction does not modify states of conditions. For instance, if the spinal foramen was exactly circular in shape and if one vertebra moved exactly on its pivot around the one below or around the one above, then there could be no pressure providing one vertebra did move exactly on its pivot around the one below or around the one above, then there could be no pressure providing one vertebra did move exactly on top of another and they moved around the same pivot in the center of the circle, but in the first analysis these intervertebral foramina are not circular, none of them. They are all more or less peculiar and

different in their shape, differing at the different portions. Supposing that on top of this oval shaped opening I had another oval shaped opening and I changed that oval to assume another angle, consequently at the space between the two there is a smaller opening and all that matter known as spinal cord which passed through the two large openings are now being crowded within the smaller one, consequently there is pressure. Given two oval disks of same shape and diameter, one laying directly over the other and the diameter of the lower angle is from left to right, would the space between the two be the same if the diameter of the superior angle was posterior right or anterior left? Or let the lower angle be from left to right and the superior one be from posterior to anterior, would the lumen between the two now be the same? Could the same amount of matter now pass between them as when one was exactly above the other? That means just as much pressure in the truest sense of constriction of multiple currents passing from above downward as it did when we had pressure on one intervertebral foramina from the side. When you understand that these vertebrae are moving on each other as I have stated you can see the endless possibilities. As we have always understood vertebrae had a certain or normal movement and as long as it kept within the range of that there could be no pressure upon nerves. rotate our body and we can not produce pressure upon nerves because we are not producing pressure beyond the normal limits.

SPINAL CORD PRESSURES.

At another place and time we have spinal cord pressures resulting from subluxations of vertebrae; that such conditions induced pressures upon portions of the spinal cord which in turn diminished the lumen of them, which reduced their strength or quantity of conductivity of mental impulses from the seat of their origin and the location of expression. We have shown that the spinal cord was the greatest conveyor and to interfere with its processes meant to obstruct a large quantity of fibers and thus induce more than a local monoplegia, but would cover a broad surface, area or depth or all three in the most common form of disease—paralysis. In the last

analysis all disease is a disorganization of mental impulses, hence becomes paralyzed comparatively.

I am quoting the following article as proof of the contention the Chiropractor raises, which is that spinal cord pressures are frequent and occur oftener than we generally consider. Although this idea was first considered two years ago it did not have its public introduction, Chiropractically, until last winter.

You will note the central thought of Dr. Primrose's paper is the hemorrhage that occurs before, at or after the paralysis is noted. To the M. D.'s the extravasations of liquid is always what causes the pressure which was induced by one of the many "traumatic injuries" so common and so little understood by them. They are not yet willing to admit the plausibility or vertebral subluxations or the clinical fact of the entire obliteration of said paralyses by their adjustment. Careful study of this article does not reveal a restoration of a single case as the result of any of the multiple forms of operations performed. One case noted improvement and it was hoped would get well. In other cases, the vertebral pressure was found—it was removed—the hermorrhage was found—it was removed, all pressures upon the spinal cord were removed (so far as they could ascertain) and still the patient was no better-nor-worse for their work. This reaches the conclusion that even though this pressure was there, it was not the cause of the trouble being searched for.

The Chiropractor, with his logic of vertebral subluxations, at the identical seat of pressure, where M. D.'s work will find palpatable means of detecting its existence, he will adjust it by external application of the hands in an effective, quick and almost painless method—the patient will not need take ether—the vertebrae will be reduced from the subluxated position to apposition and the individual will get well without evil effects, great loss of time in bed (in fact, can continue their daily labor), and at a nominal cost—all considerations worthy of note.

We cannot help but note the significant note of warning—"When a cure results after operation it is often impossible to make sure that recovery would not have ensued had nature been left unaided to pursue her

course;" and again the Chiropractically spoken inference that "The spinal cord may show very little alteration, even on microscopic study, and yet in reality may have ceased to be a conducting mechanism. May we not assume that such conditions may result from traumatism and that if so the continuance of conditions which might be relieved by operation may permanently destroy function?" This would have been Chiropractic should it have read: "The spinal cord need not show any alteration, histologically or microscopically any more than if a copper wire were changed composition, shape, form or size, while the current is or is not passing through it it therefore can be studied alike with or without. We may assume that in all such conditions wherein current is not passing through a wire or mental impulses through a nerve, that someone has opened the switch or by some accident some traumatic injury has produced a pressure upon the nerve and thereby impeded the flow of current through the point of obstruction. We may further prove that all such conditions of pressure are induced by concussions of forces and that if such pressures are released by manual corrections it will permanently obliterate the cause of paralysis and other diseases alike."

Read the article understandingly and Chiropractically and much meat is for our observation.

COMPRESSION OF THE SPINAL CORD CAUSING PARAPLEGIA.

AND ITS SURGICAL TREATMENT.

A. Primrose, M. B., C. M. (Edin.), M.R.C.S. (Eng.); Surgeon to the Toronto General Hospital; Association Professor of Clinical Surgery in the University of Toronto, Toronto, Can.

The conditions which demand surgical interference in paraplegia due to compression of the spinal cord are by no means clearly defined. There are two chief reasons for this: first, the difficulty in diagnosing accurately the cause of the paraplegia; and second, the difficulty of distinguishing between cause and effect when we attempt to determine the results attained by our surgical interference. When a cure results after operation it is often impossible to make sure that recovery would not have

ensued had Nature been left unaided to pursue her course. Nevertheless, it is obvious that certain cases are definitely improved by surgical interference, and not infrequently it holds out the only hope of relief. In attempting to define the indications for operation I have made a study of fourteen cases which have come under my care.

Hemorrhage within the neural canal may be the cause of the compression. This may be extradural from rupture of the spinal veins, or subdural; or it may be into the substance of the cord. When an interval of time elapses between the infliction of the injury and the occurrence of the paralysis the possibility of the compression being caused by extravasated blood must be borne in mind. This point is illustrated in the following cases:

Case 1.—A man fell from a height of 16 feet to the ground, had got up, picked up his hat, which had fallen off, and used both arms to put it on his head. He said that he was not hurt and walked four or five yards to his house where he lay down on the sofa. Five or six minutes afterward he observed a numb sensation in his arms and hands and he rapidly became completely paraplegic below the sixth cervical spinal segment. Operation was refused and the man died six months after the injury without improvement.

Case 2.—A man, aged 35, fell off the top of a lumberpile 8 feet to the ground. He got up with the help of two men and having his arm over the shoulder of each he walked to his house 50 yards distant, being able, though weak, to move one foot in front of the other. Within an hour he became completely paralyzed below the seventh cervical spinal segment. He died in a year afterward without any material improvement in his condition. On autopsy a transverse fracture of the sixth cervical body was found without forward dislocation, the anterior posterior diameter of the neutral canal was narrowed to one-half its normal width. Unfortunately no examination of the cord was made.

It may be impossible to determine whether the hemorrhage is extradural or beneath the meninges. Severe pain may indicate pressure on the nerve-roots, where considerable hemorrhage has occurred, either within the dura or outside of it. On the other hand,

hemorrhage into the cord is more likely to give definite and isolated tract lesions, so that we may have such conditions as "crossed paralysis," etc. Then, again, hemorrhage may be confused with the effects of congestion at the seat of injury. The results of hemorrhage are likely to manifest themselves at an early date, often within a few minutes after the injury, while the paralysis due to congestion may be deferred for twenty-four hours or more.

Where there are symptoms pointing to hemorrhage outside the cord causing paralysis, it is, I believe, the better plan to operate at an early date and not to delay with the hope that absorption of the clot may take place. The fact is that absorption may not occur and valuable time may pass during which operation might have been of service. This was illustrated in the following case:

Case 3.—A lad 10 years of age was accidentally shot in the neck. The bullet (22 caliber) was extracted above the right shoulder-blade. The patient was immediately paralyzed below the eighth cervical spinal segment. Four months and a half subsequently laminectomy revealed dense connective tissue surrounding the dura, due possibly to a perithecal inflammation, or, more likely, an old hemorrhage with organized blood-clot. The dura beneath appeared quite normal. No improvement followed the operation. It is now nine and a half years since the injury, and the lad is still alive in the Home for Incurables, Toronto.

It is obvious from this case that surgeons are wrong in teaching that bullet-wounds producing cord lesions should be left without operation.

Individuals who are subjected to severe injury to the spine and the cord may succumb to the initial shock, death usually taking place within a few days of the accident. This is illustrated by the two following cases:

Case 4.—A man aged 30 was admitted to hospital. Four hours previously he had fallen 12 feet and been struck by a plank as he fell. He became immediately paralyzed below the seventh cervical segment. The patient died within a week of the injury, never having recovered from the shock.

Case 5.—The patient was a laborer, aged 30, on whose back a brick chimney fell from a height of 10 feet. Com-

plete motor and sensory paralysis below the level of the eighth dorsal segment occurred immediately. On admission the patient was in a state of complete collapse from which he rallied somewhat, but died on the third day. Autopsy revealed a fracture dislocation at the level of the sixth and seventh dorsal vertebrae.

Acute flexion of the cervical spine producing stretchof the cord with hemorrhage into its substance is noted in one of my cases.

Case 6.—A lad, 14 years of age, was standing in a shed when the roof fell and pinned him down with his neck flexed acutely forward. He was rendered unconscious for a time, but, on being released, found that he had lost the power to move the right leg and both arms and all sensation in both arms and legs. Twenty minutes after the accident sensation began to return, but voluntary control of the muscles was only gradually restored. In the course of a few weeks, however, the patient was able to walk fairly well. Twelve weeks after the accident his medical attendant is said to have operated for the purpose of removing a piece of bone which was pressing on the spinal cord. The immediate result of the operation was completely to abolish motion and sensation in the upper and lower extremities. Subsequently this was restored to a limited extent but the condition did not change much for twelve months; then the patient came under my observation. There was then extreme wasting of the muscles of the upper extremities, but the loss of motor power was not absolute. There was almost complete paralysis of the trunk muscles and those of the lower extremities, but there was no impairment of sensation, and the bladder and rectum were under voluntary control. There had obviously been destruction of the anterior horn of gray matter of the branchial enlargement below the sixth cervical segment with damage to the motor conducting paths. The sensory conducting paths had evidently excaped injury. The patient died unimproved, of pneumonia five years after the accident.

Early operation for the relief of compression after fracture is occasionally instrumental in restoring function, notably in those cases in which the compression is caused by fragments of the neural arch which have been driven forward into the neural canal. Case 7.—A man, aged 37, was struck on the top of the head and knocked over on his back. Paralysis below the fourth lumbar segment immediately ensued. At operation, which I performed, fifteen days after the accident, the neural arch of the third lumber vertebra was found to have caused a rent in the dura mater: it was depressed on the cauda equina. The lamina of the second lumbar vertebra was also fractured and depressed and there was a small quantity of blood-clot in the neural canal. Sensation was restored and motor power gradually improved. By the end of the third month the patient had complete control of the bladder and rectum. At the end of the year he could walk with very slight assistance and complete recovery seems probable.

The benefit of operation in such cases is also illustrated in the following case:

Case 8.—A lad, aged 16, was hit on the back by a falling tree and immediately lost sensation and motor power below the first lumbar segment. Laminectomy was performed on the thirty-second day after the accident. The laminae of the twelfth dorsal and first lumbar vertebrae were fractured and the neural canal, and there was a rent; cm. long in the dura mater. Two days after the operation sensation began to improve, and one month thereafter some restoration of motor power was notice-Gradual improvement took place. It is now two years and eight months since the operation and the patient is able to stand with slight support, but cannot walk alone. He has, however, complete control of the organic reflexes, giving him control over the bladder and rectum. and this fact alone would be sufficient to warrant operative interference, if indeed in this case the restored function is to be attributed to the surgical measures employed. Why not well?

It is quite impossible to determine with absolute certainty that the spinal cord is completely severed. Undoubtly the most reliable sign of a complete transverse severance of the cord above the lumbar enlargement is the complete and permanent abolition of the knee-jerks and ankle-colonus; but valuable time is lost if we wait for this test in traumatic cases. One must urge that in the light of experience we should operate early where

doubt exists. The following is an instance in which, unfortunately, the damage to the cord was irreparable:

Case 9.—A man, aged 40, fell 8 feet and injured his spine. Doubt existed as to the amount of damage to the cord. There was complete paralysis of sensation and motion below the tenth dorsal segment. Three days subsequently laminectomy was performed. The left inferior articular process of the ninth vertebra, along with a portion of the neural arch, had been driven in on the cord, which was completely severed and pulpified, the two ends being separated nearly 2cm. The wound healed by a primary union, but the patient died suddenly 25 days after the operation from pulmonary embolism, which at autopsy was found to have originated in the prostratic venous plexus, the thrombosis there having possibly been induced by the frequent use of catheter.

Passing now from traumatic lesions of the spinal cord, I shall refer briefly to compression paraplegia, the result of disease. The most common condition here is that encountered during the progress of spinal caries. The cause of the compression may be thickening of the dura (pachymeningitis), a collection of caseous material in the neural canal, or the pressure of an abscess. A tuberculoma may exist in the interior of the spinal cord, as in a case reported by Kraus and McGuire.

Paraplegia in Pott's disease is frequently emenable to less severe measures than laminectomy. Many patients may be cured by rest with extension, but occasionally operative interference is necessary, and it certainly is so in cases in which abscess is the cause of the trouble.

In the two following cases, in which I operated, I found an abscess invading the neural canal from in front and pressing on the spinal cord:

Case 10.—A man, 60 years of age, with compression paraplegia more or less complete and due to spinal caries, the symptoms having existed for two years, was subjected to laminectomy. The sixth, seventh, and eighth dorsal laminae were removed. The cord was compressed by an abscess which had invaded the neural canal in front of the dura. The man died, forty-one days after the operation, of tuberculous meningitis. The autopsy showed a sterile condition of the mediastinal abscesses, which contained no longer fluid, but a mass of caseous material which had replaced the pus.

Case 11.—The patient was a child of 6 years of age with paraplegia from Pott's disease existing for eighteen months prior to operation. Pus was found in the neural canal at the level of the fifth dorsal vertebra. The wound healed completely, but the child was unimproved and died eighteen months after the operation. Unfortunately no autopsy was obtainable.

The lesson I have learned from these two cases is that operation for the relief of paraplegia in Pott's disease should not be deferred too long. I did not have an opportunity of operating at an earlier period but I am sure that the chances of success are diminished when operation is postponed beyond a reasonable time. I should urge that if paraplegia is not relieved after treatment by extension applied for, say, three months, then laminectomy should be done unless contra-indicated by the general condition of the patient.

It is obvious that in many instances, notably in tumors, valuable time is lost while medicinal measures are persisted in. Meanwhile the cord is damaged beyond repair, and operation is undertaken too late to effect a cure, or again, a malignant growth may have advanced so far that radical removal is impossible.

My point is illustrated by the following case, in which a tumor pressing on the spinal cord produced paraplegia, but operation was not undertaken until it was too late to eradicate the growth:

Case 12.—A man, 52 years of age, with symptoms of impaired sensation and motion below the seventh dorsal segment was treated assiduously by drugs for some two years when laminectomy was performed, and a sarcomatous growth revealed, which was pressing on the spinal cord at the level of the fifth vertebra. Subsequent to operation a certain amount of motor power returned, but pressure symptoms recurred and the patient died eleven months after operation. At autopsy extensive recurrence of the growth was demonstrated.

Similarly, in the following case, operation was undertaken too late:

Case 13.—A girl, 19 years of age, for eight months prior to admission, had had progressive weakness of the lower extremities with a dull pain over the sacral region and extending down the thighs, and finally loss of the

organic reflexes. Distribution of the areas of disturbed sensation was symmetrical on the two limbs and indicated a lesion involving the spinal cord below the third lumbar segment. Laminectomy was performed, and a soft gelatinous material was found lying on the dura. This was removed. The patient subsequently improved to a marked but limited extent with restoration of sensation and voluntary motor power, also some control over the bladder and rectum. After the lapse of two months she again began to lose ground. Five months subsequently a tumor under the left iliolumbar muscle proved to be a round-celled sarcoma. The patient is still alive, seven months after the first operation, but rapidly going down hill.

The following case illustrates the impossibility of determining the existence of a tumor pressing on the cord. Operation was clearly indicated and in such cases should always be carried out clearly, before the cord is damaged beyond repair.

Case 14.—A man 30 years of age, complained of pain and stiffness in the back of the neck, extending down the limbs, with great weakness in the legs. These symptoms have gradually developed for a period of two years. Immediately prior to operation the paralysis was almost complete below the level of the fourth cervical segment and a laminectomy was performed, removing the fifth, sixth, and seventh cervical arches, when a vascular membrane was found on the surface of the dura and was removed. Three days after the operation sensation began to improve and there was a gradual return of motor power, so that in the course of two months the patient had made an almost complete recovery and has now for more than a year been able to work continuously as a laborer. Dr. Goldie and I have elsewhere reported the case as one of cervical hypertrophic pachymeningitis in which it was impossible to determine prior to operation whether or not a tumor was present. It is of interest to observe that the removal of a very small mass of tissue seemed to produce very definite improvement.

The question of the advisability of seeking relief by operative procedure in compression paraplegia is by no means one in which there is unanimity of opinion among the profession. One may say that in studying the series of fourteen cases presented in this paper one may come to certain conclusions which seem justifiable. We may dismiss at once the cases in which paralysis occurs as the result of compression in Pott's disease. Undoubtedly the patients should be submitted to operation when one fails to effect a cure by efficient rest and extension. The brilliant results obtained by operation in many instances is illustrated by a paper recently published by Mr. Donald Armous, in which he records the history of a patient in whom a large abscess surrounded the cord and implicated the laminae and bodies of the third and fourth cervical vertebrae. The abscess was opened, curetted and closed without drainage and healed by first intention. After four and a half months the patient was able to walk without assistance.

Paraplegia, the result of traumatism, present a more difficult problem. Allen, of Philadelphia, published the history of nine cases with post-mortem findings. His observations lead one to conclude that regeneration of the cord after complete transverse lesion is impossible, and this view is maintained by Spiller, Murphy and others.

Murphy records the results of experiments on dogs by various investigators and shows that in complete transverse section in these animals there is no restoration of function.

In the human cord restoration of function after division has not been demonstrated. It is true that there are some cases on record which would inspire the hope that regeneration of the cord might be possible after division.

A case is recorded by Harte and Stewart of bullet wound in the mid-dorsal region in which the severed cord was sutured with partial restoration of function; and the report of a somewhat similar case with partial success is published by G. R. Fowler. In such instances, however, one must entertain the suggestion that the severance of all conducting paths of the cord was not complete. Moreover, in operating on the injured cord it is not always easy to determine the exact amount of damage; the careful operator is willing to leave the cord undisturbed when all pressure is relieved, knowing full well that very slight manipulation of it may do further irreparable damage.

Spiller concludes from his experiences that in most cases operation may do harm. He is not prepared to assume, however, that operation should not be performed in any case of fracture. We have undoubtedly learned that our gross manipulation of the spinal cord in operation may do a great deal of harm, but surely there is a possibility of guarding against this, at least to a great extent, and in our technic we should be extremely careful not to do damage. It is possible, for example, to remove depressed fragments of bone without any appreciable disturbance of the cord, and to remove a blood-clot which may be causing pressure. One cannot but be convinced that many such patients are benefited by operation, and without doubt the chances of success are greatly enhanced if the operation is done early. Doubt often exists as to the cause of compression. After studying 244 cases of fracture of the spine occurring over a considerable period of years in the Boston City Hospital, Burrell concludes that in many instances it is impossible to ascertain. except by open operation, whether the cord is crushed or pressed on by bone, blood or exudate; he further emphasizes the fact that if pressure on the cord is allowed to remain for many hours, irreparable damage may take I agree with Carson that unless it is perfectly clear that the cord is immediately damaged an open operation should be done to determine the condition present and to relieve pressure where that is found possible.

It has been demonstrated by several observers, e.g., Allen, Holmes and others, that the spinal cord may show very little alteration even on microscopic study and yet in reality may have ceased to be a conducting mechanism. May we not assume that such conditions may result from traumatism and that if so the continuance of conditions which might be relieved by operation may permanently destroy function? On this ground early operative interference is urged in traumatic cases wherever the element of doubt as to the cause of the paraplegia exists.

CHAPTER IV.

Many students of Chiropractic are satisfied if they hear a vertebra crack. They want to "see something move" and know in their minds that they "have given "a shove on the back." By comparison (and that is the way to reach conclusions) give me two Chiropractors, other things being equal, and two patients with conditions equal; let one use a shove, lunge or thrust movement, and the other work with the recoil, and the latter will get better results in a quicker space of time.

The history of this school proves (and that takes in the history of Chiropractic) that up to five years ago we were averaging results in forty to fifty per cent of cases as they came in miscellaneous quantities and characters. Why we failed in fifty per cent and were able to get results in an equal number was a question considered but not answered. It was answerable. We did not adjust all subluxations; if we had, all patients would have been well. And yet that isn't always an answer, because sometimes the vertebra did move thoroly and we were not getting results. Among the students, as they would come and go, some would get better results than others, but until the time mentioned one could or did analyze their movements or thots sufficiently to reach a scientific basis whereby others could be taught to get the same results that the best were getting. Until five years ago, when everybody failed to get results, they would "turn it over to B. J., and he would get results." It was asserted that "he was a psychic, gifted with psychic powers, and in that way had a marvelous touch, and he could get results where nobody else could."

I didn't like that answer. The question was, Why could one person do what others could not do? I started to elucidate the problem with a series of Sherlock Holmes investigations of personal, minor details of how I gave adjustments. I found that I placed my hands and fingers in a certain way. I gave a certain kind of movement and then I analyzed how that movement was obtained, and thus point after point was recorded, picture after picture was taken to record every detail to get it

into the basis that one plus two plus three plus four makes ten. I had a knack that others did not possess. It was a talent, and so perfect was its execution that it brot results invariably where results were at all possible. There was a basis upon which one was tactfully getting results. To make it scientifically universal was the desire. Done unconsciously and not purposely by myself, but it was done. If my "peculiar sort of a movement" got results when others could not, then it must be analyzed for the sake of others. In analyzing the proposition, my movement was more springy and elastic. Why was such a movement more valuable? The previous taught idea had been to get your hands in most any position that was handy to the adjuster (which was never alike in any two) and push, drive or shove the bone into place.

That principle got results in forty or fifty per cent of cases. By discrimination we found that my average was much higher—seventy-five to eighty per cent, thirty per cent more than any other. I wanted others to do equally well, if not better. I found in watching the movement and in analyzing the intelligence behind, that Innate Intelligence set the subluxation, and not me. We say, "I adjusted this vertebra." Man does not adjust a vertebra. It is impossible to adjust a corpse. We do something to the bone from which we hear a clicking, and selfish man claims the credit. Understand and comprehend the law of intellectual adaptation and you will know what I mean. For instance, a man, paralyzed, at the top of a stairs, falls to the bottom. He gets up and walks, well and normal. You would hardly say that the stairs adjusted the subluxation. Stairs, being made of wood, have no intelligence; have no power to know which vertebra to adjust, which direction to put it. And yet an adjustment took place and the man was well. Who did the adjusting?

A man walking on a sidewalk with crutches: something drops from above: he jumps and gets away from the falling brick and is surprised to find he is well. An adjustment took place. We have commonly used the term "accidental adjustment" as quite explanatory of the condition that occurred, but I have recently changed that to be one of an *intentional* adjustment which was

planned and worked for by Innate Intelligence in that individual.

Transmission of forces in the body is worked to a definite end. Sometimes the path is obstructed. Remove that obstruction and Innate does the rest. You call it "accidental," yet it is intentional on the part of Innate Intelligence. To give the best adjustment you must know intelligently the law of intellectual adaptation. Without an intelligent and correct picture, in your mind, of this intellectual adaptation you gain nothing to the end of giving your part of a good "adjustment."

I found that my analyses called for three things: First, how subluxations were produced; second, how accidents corrected them; and third, how intellectual adaptation took place. I had two things to consider primarily—forces and physical matter, causative and corrective. In fractures it was always a quick blow that broke a bone. In dislocations it was always a quick jar, a sudden wrench or spontaneous twist, combined with the relative quantities and directions or concussions of forces, that made dislocations or subluxations. It takes more force to induce fracture than to displace it as in dislocations. It takes more force to make a dislocation than a subluxation.

In relative terms we might say that 33 1-3 per cent of force would make a subluxation, 66 2-3 per cent of force to make a dislocation, 100 per cent to make a fracture; 100 per cent being our standard of the greatest amount of resistive force possible. It would take the greatest force to cause the greatest discontinuity of If 33 per cent would produce a slight displacement of the articular surfaces between bones, then it could and would not in itself be force enough to produce a dislocation. A force of 66 per cent is great enough to make a dislocation and could and would not be force enough to produce a fracture, it taking 100 per cent of force. In other words, "a dislocation force" could not make a fracture, yet it could be a dislocation and a subluxation. The fracture would be force enough to make a fracture, dislocation and a subluxation. Clinically, where you find force enough to make a fracture, you will find force enough to make a dislocation and a subluxation near by or distant. In a clinical case, where a fracture of the shaft of the femur exists, it is possible to find a dislocation of the head of the femur and a subluxation of a lumbar vertebra, because the force of 100 per cent contains enough power to make a dislocation and a subluxation.

A slow, steady, heavy pressure is followed quickly by a tension of every muscle and bone, each resisting the external force. We consider, carefully and thoroly, the quantity of internal resistance pitted against external forces. To produce a dislocation of the head of the right femur, knowingly and intentionally, you forcibly pull the leg, you gradually increase the force. Every muscle begins pulling to its highest tension, and before two minutes have gone every muscle is resisting to its utmost. That is due to intellectual adaptation by and thru Innate Intelligence internally. The harder the pull, the greater the muscles resist. Unless there is more than average force it is impossible to pull the head of that femur out of place. Doctors rarely attempt to reset a dislocated bone or fracture with the individual in his normal state. Ether or chloroform is used to deaden feeling and relax resistance, and there is the value of an anesthetic.

Orthopedic surgery is a process of stretching or pulling covering weeks, months or years. This is contrary to the way in which it is produced. It is only possible to produce a subluxation, dislocation or fracture when intellectual adaptation could not take place. If it can take place, you won't have traumatism. Innate Intelligence must be asleep, so to speak, before a subluxation can take place. A subluxation could not occur, granting that the external and internal forces are 100 per cent; both are equal and no damage can occur from one to the other. Suppose that 100 per cent of force is expressing itself in your fingers. You break a stick of chalk; it is easily done because it offers only 1 per cent of resistance; but supposing it a bar of iron equivalent to 100 per cent of resistance, then neither one would break the other. I could not break it; it could not break We would stand on a level, and if put in resistance scales both would be equal. Supposing that the internal resistance were 100 per cent and the force from the outside were 133 per cent, as a consequence you would have a subluxation that could take place in any joint in your body where this combination of forces would come together. "Subluxation" speaks of slight dislocations of vertebra, altho it can occur in any portion of the body. The internal resistance being 100 per cent and the external force 166 per cent, you will have a dislocation; or if the internal resistance is 100 per cent and the external force is 200 per cent, then you will have a fracture, because one offers twice as much force as the other can resist, and discontinuity of structure occurs.

In studying "recoil" we can get some advantage from the fact that buggy springs can be loaded until resting flat on their base, but they will not break so long as they are down. But if, when riding in this condition, you strike a bump, go over it, and the load rises enough to let the springs come up quickly, then is when the recoil comes in on the weight coming down, and then is when the spring will break if it breaks at all.

Have you watched pile drivers? The blow is given and the hammer is immediately raised, but, as you may have observed, the pile continues to go down. Watch the pile and find that it does not go down until after the hammer has left. If you have ever held a log or a long large stick while somebody was driving the stake, you have felt the log or stick continue into the ground even after the hammer has left the end where it touched. Those are instances of the recoil.

Where the range of resistance equals the range of introduction of forces, we are dealing with the ideal man and conditions.

As the ideal man does not exist, this is not a correct hypothetical case. Everybody is more or less sick; more or less run down; more or less weakened, and is not offering that 100 per cent of resistance—usually far from it. For instance, a pillar is only so strong as the weakest point; a chain is only so strong as its weakest link.

The spinal column is the backbone of man. It does not offer a resistance of 100 per cent because there exists one or more subluxations and everybody has not only one but many. No spine is capable of resisting 100 per cent; but supposing there is a resistance of 80 per cent, then introduce 110 per cent from the external and

you have a subluxation; so the more normal people's spines are, the better are they able to resist greater forces from the outside.

What kinds of concussions would produce subluxations, dislocations and fractures? It is the unequal concussion, where forces meet instantaneously, in awkward manner. If I caught you on your guard (where forces are equal) and hit you, it would not be liable to produce a subluxation. If I caught you in the same condition and off your guard and gave the same blow, I would produce a subluxation. As soon as forces meet a concussion takes place. There exists a difference between percussion and concussion. When a concussion takes place the stronger one displaces the weaker. In this instance the sudden clash of the two, one stronger than the other, produces a subluxation. Understanding the intellectual adaptation, Innate Intelligence received impressions, interpreted them and tried to overcome the external force but gave way because of the other being the stronger and she could not resist it, subluxation being the result. Like begets like. Instead of following the principle of inducing a percussion, tantalizing, stimulating or inhibitive quantity of force for weeks, months and years and applying a heavy, shoving, straining or tugging force on the bone in question, it is better to use a quick, corrective motion or just the opposite of the causative motion. If we have a resistance of 100 per cent and it took 133 per cent to produce a subluxation, and it was possible to use 133 per cent of force intelligently. it would correct the subluxation. This we are doing daily. We are merely reversing conditions. It took 133 per cent of force awkwardly applied to make a subluxation. Today we are using, intelligently and scientifically, 133 per cent of force to correct the subluxation. If it took 166 per cent to produce dislocation when awkwardly applied, it would be necessary to have 166 per cent of force intelligently applied in the opposite to correct it, and the same with a fracture. If it took 166 per cent pressure per one second to produce a dislocation, it would be improper to use 166 per cent pressure for a period of an hour to put it back. That would be the wrong application because the question of time enters all considerations. The question of a causative time or a corrective

time is the great factor that physicians are overlooking. They never consider the question of time in the formation of a fracture, dislocation or subluxation as an important corrective consideration. A man falls out of a four-story building. They pick him up with a fracture and dislocation. The physician realizes that as soon as the two came in contact the dislocation was made, but he didn't think if it took a second to produce it, it need take but a second to reset it by reversing the conditions. He would not attempt anything in a hurry. Take the cases we are confronted with and the methods we use. Suppose a dislocation was permitted to stand for ten years and the subluxation for ten years without having been corrected. His method of treating would be to put the person in bed one month, strap the head and shoulders to one end, fasten a pulley at the feet, place a strap around the thigh and put five or six hundred points' pull on the end of the pulley, have that gradually and steadily pull that leg in place and perhaps keep his patient for months in that position. You are dealing with the resistance of every tissue, and nine times out of ten they have made failures.

Chiropractically we would have applied the same causative force in an intelligent corrective manner in the same length of time it took to make it. You ask whether I consider the Chiropractor more capable of setting fractures. Yes; he considers the question of time in dealing with abnormalities. The reason, then, is nothing less than the aim upon your part to accomplish in the same space of time what it took to produce a dislocation or subluxation compared with how long it has been existing.

The recoil is the scientific application, by intellectual adaptation, with internal resistance to your force from the outside. Shoving a bone or pushing a vertebra does not get results. I don't care how much you shove bones and hear them crack, how much you thrust vertebrae into position and hear them snap, that in itself does not constitute results. We place our hands in a certain place and give a certain adjustment; we direct our 133 per cent in a P. L. I. direction. You say, "The vertebra went into place." Supposing that our subluxation, as we analyze it, is P. L. S., but Innate knows it is P. L. I. We direct

Have we damaged or injured our patient? We first answer yes, but even the we have misdirected our force, Innate Intelligence says, "Even the started wrong, I will correct its direction." You have started the motion, the vibration. Innate says, "I know how this must go, but I didn't have the additional force of 33 per cent necessary to move this bone into place. Man adds the external force needed." She then utilizes it by her process of intellectual adaptation. We may not place the right foods into a mouth, yet Innate makes the discrimination and utilization. The good is absorbed and the bad expelled. If the food is partially good she will get all the good possible from it. The better the food, the better the assimilation. The same is true with adjustments.

We don't adjust subluxations. Innate utilizes what forces we give and puts vertebrae into place.

Look over the history of Chiropractic and notice the results accomplished by pseudos. Some have done remarkable work. They started a vibration and Innate Intelligence (behind the people they had was the same as we had) took advantage of the vibration and the patient got well. The difference between the educated and uneducated Chiropractors is that one works knowingly and the other does not; one strikes a higher average of correctness than the other, consequently it is easier for Innate to work, and we get a higher average of results.

I do not want to underestimate the educated work but I do want you to put a higher valuation upon the work of Innate Intelligence. Correctly and accurately apply your force as quickly as possible in what appears to be to you the right direction. By so doing you offer a greater assistance to Innate Intelligence. The space of time is lowered between the time the patient comes to you sick and goes away well. Take two men, one with the knowledge of intellectual adaptation, how to apply his forces correctly, and another who "hits at the back" without that knowledge, and the first will get his patient well sooner-proof that Innate Intelligence does adjust the subluxation and not we (if you watch and analyze it); that the vertebrae will become adjusted after your hands are off the patient—you will hear it afterward.

There is the object of the recoil; it takes place after your hands are off. So long as you hold your hands on the patient and hold his body down, after you have given the movement on that spine, you will not get the adjustment you want. Your aim is to add the 133 per cent as quickly as possible and get off as quickly as possible, then let the back spring upward, immediately following which time you get the desired recoil. Your adjustic movement induces Innate to bring that back up; the muscles contract quickly and forcibly. What is it that makes these muscles contract and jerk? That is intellectual adaptation. Did you ever analyze the process of quick movement? It is one of the characteristics of Innate to do quickly and now, not tomorrow or next day.

You will ask, "Since we have added the recoil the last four or five years, what has been the percentage of results?" It has raised from 40 and 50 per cent to 80 and 95 per cent. At 40 and 50 per cent of results we were making the M. D.s take notice, and now at 80 and 90 per cent they are enrolling at the school.

The next question is how to accurately analyze that spine. Are the spinous and transverse processes always a natural guide? No. As these are the only prominences we can feel on the spine, what is to be done? Oftentimes I disregard all analyses, go perhaps contrary to what the spinous or transverse processes say, and yet I get unparalleled results. In approaching any person you get an impression which may lead you right or wrong. If accurate, it is called "second sight," "intuition," "psychical," etc.; if inaccurate, you are termed a "dub." What is that something? As you approach your patient you get a picture in your mind of what he is; as you listen to his symptoms you get a mental picture of the places causing them. That picture might be an unjust or a just one. Which it is depends upon the state or condition your brain is in that receives the impression; depends on how normal or abnormal your brain is that stamps an impression that it receives from surrounding conditions. It is for you to consider every phase of that your mind went thru as it analyzed the impressions received from the person.

I don't want you as an educated individual to disregard your analysis; that is the more educated, accurate way. With the majority of people I would advise you to follow it, but there come times (more sometimes with some people than others) when you feel that, if a certain adjustment was given contrary to the analysis, it would give results. There are times when you are justified in disregarding your analysis. A person who does see these differences in people and who does mentally and correctly analyze them point by point, and does accurately do something that nobody else can, is called a psychic, but if he follows that pursuit and utilizes it in his practice practically, he will disregard all rules and accomplish more than a machine-made man.

The ultimate aim is getting a correct mental picture of that spine. That picture will be determined by the impressions you get in palpation, but you ought to go even one point beyond. Close your eyes and see that spine. Watch the oldest worker in Chiropractic, and in cases of nerve-tracing of a particular trouble he will tell you offhand, apparently carelessly and quickly, "Trace that around so and so. It will go so and so." Your first that is that he is basing that on experience what he has done before; but he will lay out a path upon which a nerve has never been traced without hesitation. He has based that upon the fact that he looked and saw the nerve and its path. The verification proves his picture. A patient will say, "I have a trouble in my lung so-and-so," and immediately a reply will come back, "Third dorsal." Why should he say third in preference to fourth or fifth? He saw the picture and made his analysis. In adjusting a patient lying on the table the student will say, "The ninth dorsal is so-and-so," or "Will you please adjust the tenth dorsal so-and-so?" and immediately your experienced man will place his hand on the vertebra and adjust it, never stopping to count the vertebrae, whether eighth, ninth or tenth. Your analysis calls for tenth. He approaches the place and places his hands on it. In approaching the patient he gets a picture of the subluxation in question. That is what he adjusts. Don't be such a stickler for rule that you cannot disregard a rule if the case demands it. We teach rules for you to follow in your palpation and adjusting work. These rules are correct so far as an educated mind can be accurate in this work, but there is something more

than that—where Innate communicates with Innate, and Innate communicates with the educated mind, and you feel without feeling, you see without looking and you hear without sensible vibrations. Follow this system and constantly cultivate a closer connection between your Innate and educated mind, so that you can the better rely upon the unusual conditions.

You don't realize that thot for its worth, and until you have studied deformities you can't appreciate it as one has who studied for years this work, coupled with the constant facts of our osteological studio. Once you have gone thru there you realize that not only once but thousands of times spinous processes indicate a P. R. subluxation and your pressure is shown to be in a different place, and where your spinous processes show that it is not that kind of subluxation, your spinous or transverse processes may show a R. I. when it is an R. S. This can be accounted for by a compound reason based upon a multiplicity of abnormal specimens, "abnormal" shape, form, size, deposition of nodules of exostoses here and there.

It is hard to give instructions how to follow the psychological study and practice. It is of those functions that are internal and cannot be shown externally except thru the acts of the person involved. It is a thing you must do for yourself. I cannot tell you how to think. The processes of thinking are purely your own. Some of these ideas are new. It may be putting doubts in your minds. As regards accuracy of this process, I can only say that it is my ideal. As to the system we teach, it is not our ideal; we will never reach that, and I only say that it is ideal so far as our educated minds can go. Consequently it is the best we have to offer. Follow this as best you can. If you have reasons, do otherwise.

You can understand and see my viewpoint when I say that in a school we teach the best we can according to what we have to offer in point of logic and art, and still I realize that to get the greatest success possible I must give you the basis upon which successes are being based. That is why I am interweaving here a bit of personal experience, because I want you to utilize it if you can. I desire to be frank.

CHAPTER V.

AN APPROXIMATE ADJUSTING TABLE

The object of the following table is to get you a set rule by which you will know whether you are adjusting according to the principle of getting the best net results for the expenditure of force.

As a set object we assume that your adjusting table is headed north and that the axis of your patient's body is north, with the head in that direction.

"Position of head" meaning the location of the head of your patient.

"Side" meaning which side of your patient you are standing on. This changes the hands should you shift.

"Palpation" meaning which hand and with which fingers—also indicative of whether patient is lying or sitting.

"Which hand" meaning which hand is the palpating hand.

"Subluxation" meaning what does your palpation prove for the subluxation.

Having ascertained your subluxation you are ready to assume position of your body to meet the needs of the adjustment for that particular subluxation; hence, "Where feet" becomes the first data. Taking a plumb line, dropping from the subluxation to the floor, as a given working pivot, then we refer to "Where feet" in their relation to this plumb line point on the floor.

"Slant of arms" refers to how the body swings after feet have been properly placed. The body may lean to one side or the other.

"Nail hand," according to the side you change hands. This is done to save useless movements and to economize service.

"Hammer hand." As much can be said for this as for "Nail hand." Wherever one is mentioned above its opposite should be in here.

"Direction of adjustment." The direction for adjusting must always be the opposite of the subluxation. Having a given subluxation—P. R. S.—then the adjustment would be its opposite in directions, which would be A. L. I.

"Pressure." By this term is meant where would the approximate pressure be upon nerves or the spinal cord in this instance. While we can approximate, and often be correct, yet, there are cases where this rule will not apply.

"Releasure." Naturally, to induce pressure by subluxation would be inducive of the thought to release that by adjustment. This would be identical with the pressure.

As used under "Slant of arms" and elsewhere, O. means obliquely, D. means downward, T. means towards, F. means forward, B. means backward.

ALL POSSIBLE SUBLUXATIONS.

Posi- tion of Head	Side	Palpa- tion	which Hand	Sub- luxa- tion	Where Feet	Slant of Arms	Nail Hand	Ham- mer Hand	Dir. of Adj.	Pres- sure	Relea- sure
north	L	sitting		L	Opp. Neck.	over neck	L	R	R	LorR	Ror L
u	l a	lying	L	LS	Opp. L shoul.	TR	ш	ш	RI	LS	LS
ш	u	u	«	LI	Cent. of table	S&R	u	u	RS	LÏ	LÏ
	ı				on L	Ban			10	11	
u	"	u	u	LA	Opp. neck on	OD&T	«	u	R P	LA	LA
u	u	u	ď	LP	Opp. neck on	body O D &	ш	u	R A	PP	LP
					L close to body	TL					
ш	ű	"	u	LAS	Opp. head on L from	OD to R&T	ш	и	RIP	LAS	LAS
					table	body	ш				
и	"	u	a	LAI	Opp. hips on L close to	OD& RT	"	æ	RPS	LAI	LAI
ш	l "	u	u	T D C	table	ODT.	u	u	D 4 T	T DC	T D C
••	"	<u> </u>	"	LPS	Opp. shoul. on L	ODI&	"	-	KAI	LPSx	LPS
æ	«	"	u	LPI	Opp. hips on	ODS&	a	α	RAS	LPI	LPI
u	u	u	u	R	Opp. hips on	to L ODS&	u	и	L	LorR	LorR
	۱	۱	l 4	_ ~	L	to L	u	u			
"	" "	a a	"	RS	Opp. L shoul.	OD &I	"	"	ΓÏ	RS	RS
"	"	4	" "		Opp. hips	OD&S	u	u	LS	RI	RI
••	"	"	"	RA	Opp. hips on	OD &	-	-	LP	R A	R A
"	"	u	ш	RР	Opp. hips on	to L ODF&	u	ш	LA	RР	RP
u	u	a	u	RAS	Opp. shoul.	O D I	u	u	LPI	RAS	RAS
44	u	"	u	RAI	on L Opp. hips on	& L O D F	и	ш	LPS	RAI	RAI
"	u	a	и	RSP	L Opp. hips on	& S O D B	ш	ш	LAI	RPS	RPS
ш	. "	l u	a a	1	L	& R	"				
	<u> </u>	"		RPI	Opp. hips on L	ODS &F			LAS	KPI	RPI

This concludes the possible eighteen subluxations to be adjusted with the adjuster standing upon the left of his patient. He has adjusted the nine primary subluxations on the left side with the patient's face towards him; he has also adjusted the nine primary subluxations with the patient's face from him; all done while standing upon the patient's left. The adjuster standing upon the right of the patient simply changes the direction of the head and reverses the hands, from the above schedule; otherwise directions, subluxations, adjustments, pressures and releasures are materially the same.

The following schedule is practical for all the cervical vertebrae, minus the atlas, all dorsal vertebrae, all the lumbar vertebrae, and ends with the considération of the five lumbar; the sacrum and coccyx being considered under separate tables of their own.

Posi- tion of Head	Side	Palpa- tion	which Hand	Sub- luxa- tion	Where Feet	Slant of Arms	Nail Hand	Ham- mer Hand	Dir. of Adj.	Pres- sure	Relea- sure
north	L	sitting lying	L	P	Opp. sub. on	Dbody leaning to pa- tient's L	R	L	A	S	S
u	ш	u	u	PS	S and to R	OD &I	ш	ш	AI	S	S
Œ	u	ű	u u	PΪ		OD&S	u	и	AS	S I	S I
u	u	"	u u	PR		OD& TL	и	u	AL	R	R
u	"	u	"	PL	Opp. sub. close to table	OD& TR	u	и	AR	L	L
u	"	"	"	PRS	S to sub. on R	ODS & to L	u	u	AL	RS	RS
и	u u	u	u	PRI		ODS&	R	L	ALS	RI	RI
ц	u	u u	u	PLS			u	ш	ARI	LS	LS

CERVICAL-DORSAL-LUMBAR VERTEBRAE.

ARS

LI

LI

You will notice that the nail hand and hammer hand and the palpating hand remain the same, considering the fact that the adjuster is standing upon the right side of the patient. In all directions such as left and right we are referring to the left and right of the patient, not of ourselves, his adjusters. The direction of adjustment is always opposite to the direction of the subluxation. We have given a schematic idea of the possible location of pressure, and, as releasure is identical to pressure, we can see that this raises the question as to whether this schematic list is always the same. In that instance we

PLI I to Sub. on R ODS&

can state that it is not; that it is possible to have a PRI subluxation and have a LS pressure in a given case.

This statement of locations of pressures and releasures, corresponding with specific subluxations, is a tentative statement based on the observation of many cases. reaching not always a conclusive fact, but reaching a composite view; whereas, this condition, as stated, would not occur in 100 per cent of cases, as illustrated, but it would occur in a majority of cases—at least more than 50 per cent. Thus, you can see, this is a composite statement and must not always be relied upon. Your nerve tracings will prove to you conclusively just where the pressure is. In giving the direction or the slant of the arms we are referring to the directions in relation to the long diameter of the arms of the adjuster in relation with the directions of the patient—his forward portion being downward and his back being up, his head being superior and his feet inferior.

We believe, with this plan, you will have no difficulty in following us throughout the list.

In the atlas work the adjuster stood upon the patient's left; in the cervical, dorsal and lumbar he has stood upon the right. You will notice that in the latter half of the atlas work and in the work just enumerated, in cervical, dorsal and lumbar, that the same hand becomes the nail hand and the same hand the hammer hand. This is because in the latter half of the atlas work the patient's features are turned from us, and on standing upon the patient's left with his face away from the adjuster, the position, in dealing with the subluxations, becomes identical as if the Chiropractor was standing upon the patient's right, with his face towards him, and adjusting the subluxations mentioned.

The four subluxations of the sacrum which are possible are as follows: A posterior base, an anterior base; a posterior apex and an anterior apex—commonly known as follows: a posterior base—BSP, base sacrum posterior; an anterior base—BAP, base sacrum anterior; an apex posterior—ASP, apex sacrum posterior; an apex anterior—ASA, apex sacrum anterior.

SACRUM.

Posi- tion of Head	Side	Palpa- tion	which Hand	Sub- luxa- tion	Where Feet	Slant of Arms	Nail Hand	Ham- mer Hand	Dir. of Adj.	Pres- suro	Relea- sure
north	L	sitting lying	R	BSP	Opp. sub. on L	D	L	R	A	LorR	LorR
u	u	""	u	BSA	Opp. sacrum	"	ш	ш	«	"	u u
u	ш	u	"	ASP		u	ш	"	u	"	"
u	u	u	и	ASA	Opp. sacrum	u	u	u	u	"	u

Through the series, so far, we have given approximate locations of pressures, having and bearing in mind that the pressures are upon the nerves as they emit through and between the invertebral foramina; we have not mentioned specific spinal cord pressures, but we must bear in mind that wherever we have a subluxation great enough to produce a pressure upon an intervertebral nerve that this subluxation in itself is great enough to destroy, partially, the normal lumen of the spinal foramen, and by so doing raise the possibility of producing pressures upon specific portions of the spinal cord at that particular segment. Thus, a posterior subluxation might produce pressure upon the anterior of the spinal cord of the vertebra above, or it might produce pressure upon the posterior portion of the spinal cord of the vertebra below. By that is meant that a posterior subluxation of the eighth dorsal may produce pressure upon the anterior portion of the spinal cord which comes in approximation with the posterior inferior rim of the centrum above, or we may also find a pressure upon the spinal cord on the posterior, as that spinal cord comes in approximation with the superior border of the laminae of the vertebra below. Thus, we might surmise and conceive of the various directions and various degrees of pressures possible under all these considerations. That remains to be worked out more thoroly and systematized, preferring not to list in detail the series as given.

In regard to the subluxations of the coccyx and the innominate bones. I will briefly mention them and state the sum total of possible pressures, because it is brief.

The subluxations of the coccyx are base posterior; base anterior; apex anterior; apex posterior; apex superior; apex inferior; apex anterior superior, and apex

anterior inferior. When you bear in mind the location of the coccyx and that it curves upon itself, and that this location makes it subject to direct blows, you can readily see that such blows could subluxate or dislocate it in the directions mentioned. The only possible point of pressure in all such is as the most inferior fibres of the filum terminale pass outward between the cornua of the coccyx and the inferior part of the fifth sacral vertebra, where the cornua could, by such subluxation, decrease the foramina, which exists laterally or from anterior to posterior in the vicinity of the spinal cord canal. We can further conceive of pressures when we understand that the spinal cord is contiguous to all surrounding osseous structure by connective tissue. This, by a peculiar subluxation of the coccyx forward, can produce a stretching end pulling upon the filum terminale, and by stretching it twice its length we decrease its lumen, and to decrease a lumen in any respect, in a permanent form, is indicative of a pressure in a restrictive or constrictive sense. That occurs here in many of the subluxations mentioned of the coccvx.

In making a set rule of this kind there is nothing about it which becomes absolutely true to every given condition you meet. This is a rule that can be followed by everyone, providing your cases were all identically the same. There are cases, though, where this rule will not apply—to those cases it cannot be attached. object of this set of rules is to give you a working basis, and then permitting you to adopt this to each particular case, with the fluctuations for or against the conditions of the rule as laid down. Careful study and careful working out of this rule by constant drills will be of great aid to you in getting your work down to a science. Perhaps the only excuse that can be offered at this time for this rule is that when you succeeded in a given case, with certain, definite, specific results, you desire to know just how you accomplished it, especially when you come in contact with the same given thing in another case, and if you do know, you know just how to go to that new case and how to apply it to get the same results. Unless you have a system under which you work this, it gets lost. As a given case in question, to show you the applicability of this rule: Yesterday afternoon I was

called out to see a patient. Went into the room, found patient with a high temperature. No thermometer was used to test that fact—the bare hand placed upon the body showed it was very hot. I, feeling the contrast with my hand, was aware that an excess of temperature existed. The hand was run up and down the back in an endeavor to find the hot box. It was found; the rule was applied; the patient had hardly had his adjustment and laid back upon the table until big beads of perspiration were upon the upper lip, occurring, perhaps, in less than a minute and not more than two minutes at the most. I again saw the case about 7 o'clock last evening—21/3 or 3 hours after the first adjustment—and the case had reported very profuse perspiration up until about half an hour of my calling the second time, at which time the body had become hot again. Again, knowing how the work had been done the first time, knowing what results had been obtained from the first adjustment, the same identical adjustment, in the same identical way-standing upon the same identical side, with the head in the same way, with the same hand (nail hand), with the same hammer hand—was given, with the same general result. We simply duplicated at 7 o'clock what was given at 4:30 o'clock. Thus, the same identical adjustments were given on the same case, with the same identical results. with the exception that the second adjustment succeeded a little further than the first, and the patient from that time to this has had no temperature above normal. speak of this now by way of showing that, providing you have had a system presented to you based upon the work of a great number of cases, with a large amount of results, you do not have to go through the work of experimenting and testing until you get the system. The system we furnish you here will prove to be approxmately correct for the general run of cases you may The value of this rule is that when you apreceive. proach your cases you approach them with a systematized method, which has been proven hundreds of times to be correct.

I will introduce, going right along here, this further idea—man is a systematic product. The Chiropractor should approach the study of this system in a systematic way. When the system gets wrong it should be studied

with a systematic process. To understand the system is to study the system as a system. A system is logic deduced into series. But particularly understand man: we must approach him with a systematic basis of logical deductions crystallized into processes, weighing each in its respective values; and when you step from the realm of logical facts into the realm of theoretical surmises or hypotheses, just that quick do we begin to lose sight of man as a systematized product. The Chiropractor should do all that he does for his patient in a systematic way. All mechanical conceptions are mechanically systematized; all arts are systematically arranged. When art ceases to be systematically arranged it ceases to be To make the art of Chiropractic an art it becomes necessary to arrange it in logical form and in logical sequence, from A to Z, or from 1 to 100. Working so far as you can from the known to the unknown. or, if you possess a rare ability, working from the unknown down to the known. The majority of systematic reasoners work upon the known facts to the unknown, trying to make the unknown correspond logically and systematically with the things known—beginning from the bottom and working up.

The subluxations, as we have listed them under this chart, offer degrees of resistance the same as other objects which must be moved from place to place. Force becomes an essentiality in all considerations. It takes force to move a freight train over a heavy track—the additional force of the engine overcomes the force of gravitation. The faster the train moves over the track the lighter it is in gravitation. As an illustration: When a bridge is considered of a weak structure owing to some change caused by the climatic conditions—as you have often heard—the engineer will often back the train away from the bridge, get a good running start and go over on the fly, and in that way the whole weight of the train is not brought to bear on the bridge, and its weakness is neutralized to a great extent. Dead weight is harder to lift than live weight. Test this out by trying to lift a dead man and a live man of the same weight. Thus does it take force to move a subluxation from what it is to what it should be. Allowing that the normal condition is equal to 100 per cent of force, both for and

against, both ways working equally, it will be seen that more than 100 per cent of external force is necessary to disorganize the structure from what it is to what it will be. If it took more than a normal force to produce the subluxation, would the normal force, 100 per cent, put it back into place? No. If it takes more than a normal amount to subluxate it, then how much more than normal is necessary to correct its position? and the answer is simply, as much more as it took to make it, with the additional factor that, whereas before the additional force was being awkwardly applied, now it must be intelligently applied or directed—the amount of force in both cases being the same.

As an example: A spine is in situ in a normal body. All muscles, ligaments, cartilages, tendons, etc., are attached. The amount of matter is complete, the amount of force necessary to go to all of these dual contiguous tissues is normal, 100 per cent. Thus, the left and the right muscles pull equally on both sides; they will pull with an equal strength, therefore the spine will permanently maintain an equilibrium, and this condition equals no subluxations—it equals health. Let the force on one side be reduced; the other, being normal, is stronger and will pull the spine to that side. Let one side be normal and the other pull more than normal and it produces a greater effect than the first given illustration. Naturally the proper thing to do is to bring the amount of vitality equal on both sides, either by addition, as in the first illustration, or by reduction, as in the second. In a given illustration, strabismus of the eye, the surgeon says the thing to do is to cut the muscle that pulls too strong. He cuts it, the muscle of the opposite side, which is normal, pulls the eye back, probably, into a normal position; but you now have a muscle which pulls only one wav-the other end is cut. He has straightened the eye ball, but the conditions are now unequal. The remaining muscle is so much stronger than the cut one that it pulls the eye the other way and you have strabismus the other way, the opposite way. The proper thing to do is. if the internal muscle of the eye-ball is normal, and the external muscle is weaker than normal, then give more vitality to the external muscle and bring it up to standard: then both are right. If the internal muscle is

stronger than normal, then the vitality needs to be distributed more evenly until the two have reached their normal condition of strength, then they both pull together—Don't cut—you simply make conditions reversed—nothing gained.

As a nail is driven into a board two considerations must be mentioned. The thought occurs: how much will the board resist the penetration of the nail? If it is oak it is more than pine, and you will drive the one harder into an oak plank than into one of pine. Thus "harder" means "more" force. Now that the nail is in place it requires more force to pull it out of oak than it does out of pine. In other words, there is a difference in degree in driving in, and the difference in degree in pulling out will be identically the same. If the fluctuation is 5 per cent going in, then the same ratio will exist pulling out.

Referring back to subluxations, if it requires an additional force of 10 per cent to produce a subluxation, then exactly an excess of 10 per cent must be used to correct it—no more, no less. To use more would be to produce another subluxation; to use less would be to fail in your purpose of setting it. For instance, suppose 110 per cent of force produces a subluxation. You use 105 per cent in attempting to set it—you have half way done so. Use 115 per cent of force and you have more than set it—you have carried it beyond its normal limits.

Now, out of this thought arises the question, How can you or I tell just when we have used an equivalent force, to that which caused it, in a corrective manner? This is purely a question of judgment, not necessarily based upon education; for it seems a fact that the less education and the more intuition or instinct used the better are you able to do this work correctly. Give me all of the great men and the great women—they have been instinctive followers and not educationally directed. Julia Ward Howe, who died recently, wrote under instinct, not impulse, not pure education simply. Thomas A. Edison moves from promptings, not from college-bred education. The best education does not help you in ascertaining this degree of resistance upon the part of your patient. That you get by feeling—by coming in contact with your patient; by careful drilling of the sense of

touch one can develop that faculty and this sensing, instinctively and intuitively of how much resistance is being offered to each adjustment of each subluxation in each patient. The women are the best adjusters in that respect. They follow their promptings, that is why the men are not as good as the women—they want to reason things out. Estimates of this character are not made by and as a result of good learning—it becomes a habit that some always get just right, and others are always hitting over or under the respective degrees of resistance. If you have taken adjustments of various people you know just what I mean. One man knows just how much force to use and another one "adjusts" over the bones but he does not recoil hard enough. He means well but he misses fire. By experimenting upon their patients these bunglers may eventually get somewhere near the proper amount of force to be used. The secret of results depends so much upon correct and accurately weighed judgment, and this data goes to complete the chain of facts so essential in the use of systematic adjustments.

The conclusion to this thought is, if the subluxation is a 10-percent one, then use a 10-percent corrective force; if it is a 25-percent subluxation, then adjust it with a 25-percent adjustic movement. Don't make the quantities unequal; balance them at all times. Always make the penetrative power equal to the resistive force, then the positive equals the negative; and when that condition exists we have neutrality, and neutrality in a body means health.

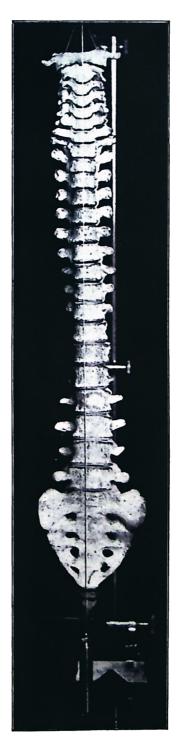


Fig. 1. Spinal Column.

Anterior View.

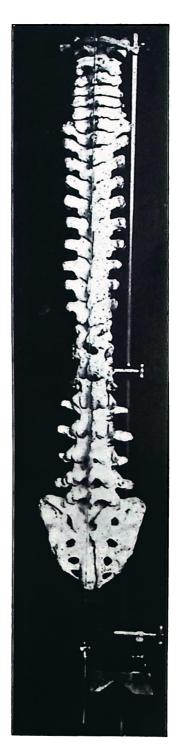


Fig. 2. Spinal Column. Posterior View.



Fig. 3. Spinal Column. Right View.



Fig. 4. Spinal Column. Left View.

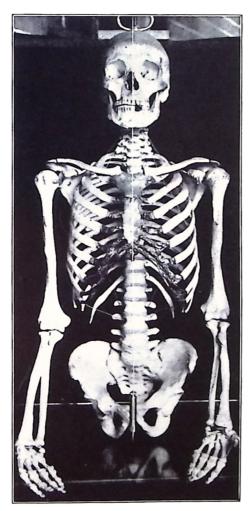


Fig. 5. Anterior of torso, including head and arms.



Fig. 6. Posterior of torso, including head and arms.



Fig. 7. Right lateral of torso, including head and arms.



Fig. 8. Left lateral of torso, including head and arms.

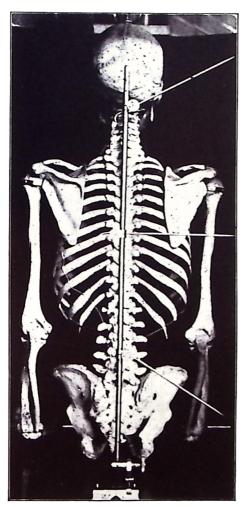


Fig. 9. Right superior, and right inferior directions.

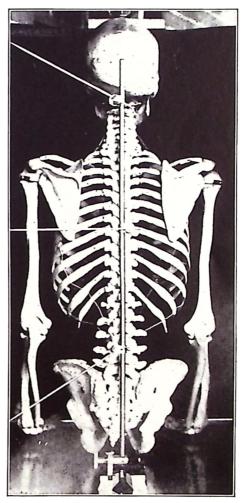


Fig. 10. Left superior, and left inferior directions.



Fig. 11. Posterior view showing right anterior, right superior anterior and right inferior anterior.

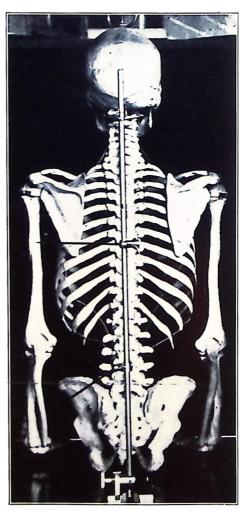


Fig. 12. Posterior view showing left anterior, left superior anterior, left anterior and left inferior anterior.

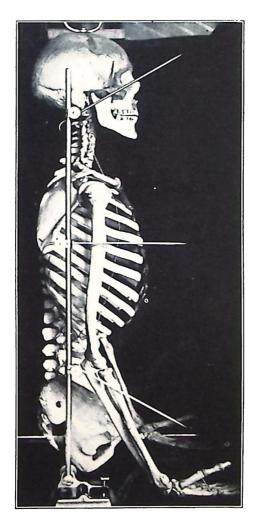


Fig. 13. Right lateral view showing anterior, superior anterior and anterior inferior.

CHAPTER VI.

THE VERTEBRAL COLUMN.

The spinal column consists of thirty-three irregular bony segments, the vertebrae, of which the upper twenty-four are separated during life by disks of fibrocartilage, and are therefore called the true or movable vertebrae in contradistinction to the lower nine, which are named false or fixed vertebrae because they become consolidated into the sacrum and coccvx. The true vertebrae are further designated according to the region which they occupy in the skeleton—the cervical vertebrae including the upper seven, the dorsal (or thoracic) the succeeding twelve, and the lumbar the lower five. All consist of two essential portions, an anterior cancellous bony disk (the body, or centrum), and a posterior compact bony arch, which is attached laterally to the posterior surface of the body. They are both variously modified in different localities to serve special purposes. The bodies are connected thruout the series by the intervertebral cartilages, which are attached to their upper and lower surfaces, and by strong elastic ligaments, forming a flexible support for the head and trunk, while the arches with their intervening ligaments form the protective neural canal which encloses the spinal cord.

The bodies generally are fastened above and below, presenting broad roughened surfaces with elevated rims at the circumference, which project slightly in front and at the sides, where the middle portions are narrowed. The latter are somewhat concave from side to side posteriorly, where they contribute to the formation of the neural canal.

The arches present upon their convex surface seven variously developed processes. Of these the spinous processes project backward in the middle, are more or less conspicuous thru the surface tissues and by far the most important to the Chiropractor. The series of spinous processes are collectively sometimes called the spine. Each of them has a pair of lateral ridges terminating in a tubercle, and a median ridge with a tuberosity. The transverse processes project outwardly on each side of the arches between the articular processes, of which

there are four facets, two projecting upward and two downward, to join with the opposite facets of the contiguous vertebrae.

The portions of the arches between the spinous and the articular processes are flattened, shelving bony plates with roughened edges, the laminae, and the strong rounded portions between the articular processes and the bodies are the pedicles.

The spines thru the entire series, except those of the first cervical vertebra, may be brought into relief and detected by sight as well as by touch by bending the body forward. They never occupy an exactly straight line, being normally slightly divergent to the right in "right-handed" or to the left in "left-handed" people, in the thoracic portion of the vertebral column, where they are obscured in the upright position except when the body is emaciated.

Left-handed people usually have a slight normal adaptation to the right, and left-handed persons to the left, and this should not be adjusted as a scoliosis, although of course there is a limit to this scoliosis—the normal adaptation is barely perceptible.

It should be remembered that, owing to the obliquity of the vertebral spinous processes in the thoracic portion of the column, they are not opposite the corresponding vertebral bodies. The third dorsal spine is about opposite the bifurcation of the trachea.

The sensibility of the dorsal region or any zone of the back is low as compared with the corresponding anterior of the body. This can be tested with anything of a given size of either or both sides.

The entire column composed of the vertebral bodies and disks of fibre-cartilage is ensheathed with a continuous layer of white fibres, intimately associated with the periosteum, which, owing to its greater thickness in front and behind, is specialized into two bands, called the anterior and posterior common ligaments.

The anterior commences at the anterior tubercle of the atlas, between the longus colli muscles, and descends along the front of the column to the coccyx.

This ligament consists of several layers, the outer, composed of long fibres, extending over several vertebrae,

and the inner, of short fibres, from one vertebra to an-It is thicker over the bodies of the vertebrae than over the intervertebral disks. The posterior ligament is within the neural canal, extending from the anterior border of the foramen magnum to the sacrum, and being attached to the posterior surfaces of the vertebral bodies and the disks thruout its course. scalloped appearance when examined in its entire length. owing to its being narrowed and thinned opposite to the middle of each vertebral body for the exit of the venae basis vertebrarum. It also consists of several layers, the fibres of which are disposed similarly to those of the anterior ligament. The interlaminar ligaments (ligamenta subfluva) fill the intervals between the neural They are thick bands of pure yellow elastic fibres attached to the roughened edges of the opposing laminae above and below.

They are continuous from side to side, uniting beneath the spinous processes and giving origin to the interspinous ligaments. They consist of double layers of horizontal white fibres extending from the median ridge of each lower spine to the inter-tuberous space of the spine above. They are variably developed in different localities, being especially weak in the neck.

The supra-spinous ligament consists of a continuous longitudinal band extending along the series of spinous processes. It is inseperable from the lumbar fascia, and is specialized in the dorsal region as the ligamentum apicum, and in the neck as the ligamentum nuchae.

The average length of the vertebral column in the well formed adult male is about twenty-seven and three-fourths inches, and in the female twenty-seven inches. When viewed from side to side the bodies are seen to increase in size from above downward, forming an elongated cone, and when in the erect position the line of the center of gravity passes thru the column from the odontoid process thru the front of the body of the second dorsal, the middle of the twelfth dorsal, and the border of the last lumbar vertebra.

At birth the infant's spine is comparatively straight, serving merely to connect the head, limbs, and ribs, and as a protecting column to the spinal cord. It is very flexible at this time and totally without the important

factors of the gravity and muscular contraction which, as the child begins to sit, stand and walk, tend to produce the characteristic curvatures in the neck, back and loins.

These secondary curvatures are not fully developed until adult life; and, as the spinal column owes to them its elasticity and power of withstanding various abnormal forces communicated to it, they are deserving of special mention. In the back of a young child, especially if it be delicate or subject to rickets, there will always be noticed a general curving of the column backward.

In fact, this convex curvature of the back is that which persons naturally assume when feeble or weary at any period of life. Subluxations produce habits or suggest occupations that make the curvature more pronounced. The dorsal and pelvic curvatures, made up of the sacro-coccygeal vertebrae, are the natural ones found in the infant. In the embryo, at the very beginning of the formation of the column, it assumes this dorsal convexity, and as soon as the sacral promontory is developed it is modified only by the addition of the pelvic curve. The normal curvatures of the spine are maintained to a great extent by the disks of intervertebral fibro-cartilage, which are most developed in the region where most movement is allowed. The disks act as buffers in resisting shocks and contribute very much to the elasticity of the spine. The natural curves are all antero-posterior, with a very slight deviation to the right in the thoracic region, as already stated.

The erector spinae muscles occupy the gutters upon each lateral transverse process and tend to establish equilibrium. The motion which the muscles are capable of producing in the spinal column are lateral, anteroposterior and rotary. The greatest degree of rotation and lateral flexion is found in the neck and loins. Structural changes are the result of unequal muscular contractions (due to pressure upon the nerves, which transmit the output of mental impulses, thus hindering the flow to the muscles of that region), producing deformity. When the curvatures are exaggerated they are called kyphosis, lordosis and scoliosis, according as the convexity is directed backward, forward or laterally. The

first deformity, or kyphosis, is seen in rickets or in caries of the bodies of the vertebrae.

The lordosis, or saddle-back, is produced by subluxations of vertebrae in a continuous order, and the scoliosis, which is the most frequent, is generally met with among people who have injured themselves by overlifting, wrenching or subluxating one or more vertebrae. It is an invariable rule with regard to spinal deformities that if a weakness occurs at any point which occasions deviation, there will arise compensating deviations above or below it. In marked cases there will also occur a totary curvature, caused by the contraction of the muscles, pulling harder than normal, due to a local cause. These are sometimes so powerful that the transverse processes are adapted into the usual position of the spines.

The most frequent seat of lateral curvature is about the fourth or fifth dorsal vertebra. The most movable part of the spine is at the junction of the twelfth dorsal and first lumbar vertebrae, and here the back is most liable to injury from strain. There is very slight motion between any two vertebrae, but the degree of movement resulting from the sum of the motions between the contiguous vertebrae of the series is considerable, and is variable in different individuals according to the number, degree and severity of vertebral subluxations. It can be increased by proper adjustment of the superior or inferior subluxations as seen in those who have none—contortionists, who can bend the spine backward so that the head can be brought forward between the thighs.

The weight of the head and upper extremities increases the convexity of the back and compresses the intervertebral disks, so that at night the ordinary stature of the adult is diminished about half an inch from what it was on rising in the morning.

CHAPTER VII. DEFINITIONS.

HISTORICAL. The first accidental crude Chiropractic adjustment of a vertebra was given in September, 1895, by Dr. D. D. Palmer. Neither the art nor the science was formed at this time. Its growth remained practically dormant till 1903, since which time his son, B. J. Palmer, D. C., Ph. C., has developed it into a well defined non-therapeutical philosophy, science and art that has no resemblance whatever to any therapeutical method. Health (equality) is restored by completing the mental and physical circuit; restoring the currents of cycles of mental impulses acting thru the material agency; replacing the full quota of positive with an equivalent negative; permitting the reconveyance of the intelligent immateriality into the mechanical corporeal; reconstructing the normal psycho-physical unit; making as one the triunity of creation, transmission and expression; re-establishing equilibrium between the abstract and concrete. all of which is induced by replacing specific disordered concrete mechanical anatomy which permits adjustment between that one law of two principles—cause and effect —the rules and manner of declaration of which are unique and unlike any theories of stimulative or inhibitive movements or applications used by any other school.

Defined. Chiropractic is a name given to the study and application of a universal philosophy of biology, theology, theosophy, health, disease, death, the science of the cause of disease and art of permitting the restoration of the triune relationships between all attributes necessary to normal composite forms, to harmonious quantities and qualities by placing in juxtaposition the abnormal concrete positions of definite mechanical portions with each other, by hand, thus correcting all subluxations of the 300 articulations of the human skeletal frame, more especially those of the spinal column, for the purpose of permitting the re-creation of all normal cyclic currents thru nerves that were formerly not permitted to be transmitted, thru impingement, but have now assumed their normal size and capacity for conduction as they emanate thru intervertebral foramina—the expressions of which were formerly excessive or partially lacking—named incoordinations.

The approximate principle is that state of intelligence and matter which nearest approaches the law of approximate perfection in organic life (ideal expression). A perfect organism is of definite, composite form and represents creation, transmission and expression of power (with accommodating adaptative changes) of an Innate Intelligence in and thru which ideations can be conceived; from which all mechanical actions are free and unhindered; thru the personifications of which all mechanical actions are corporeally perfect, in consequence of which all chemical actions are physically complete. The state of approximating perfection in organic life is, that the organism receive and expend a normal amount of power thruout, spiritually, mechanically and chemically, and that, according to its age, to typify a creative intelligent power in material form, to the end that the object act its part in the continued progressive and aggressive preservative struggle for itself and its kind, with the slightest possible interference with its function or functions, singly or in combination, in part or in whole.

The vertebral column—mechanically—is that vertical line shaft of man or beast expressing mechanical actions; it supports the body, protects the spinal cord, permits flexion, rotation, extension and counter-extension in any and all directions.

The spinal column—anatomically—is the study of at least twenty-six organized segments—vertebrae, which are placed in apposition, one above the other.

The spine—physiologically— is the study and knowledge of the anatomical structure and the purposes for which it was intended. The backbone supports the thorax on all sides and is a framework from which softer structures have an attaching point and serves to give passage and protection to the spinal cord and its branches, which convey the currents of mental impulses from the brain to the many diverging places.

The spinal column—philosophically—is the study of the vertebral column and each segment thereof in the phases of creation, transmission and expression of the superior forces which preconceived the construction of each cell and placed it where the best demonstrated results could be had, following the ideals for which that unit had been caused to be made, to thus follow its portion of the self-preservation of the universal existing conditions.

Sub-luxation is that condition where one articular surface partially loses its normal relation to its co-respondent regardless of the conditions of surrounding tissues.

Vertebral palpation is that mode of exploring or ascertaining the precise position of vertebrae by impressions received by the highly sensitive, trained fingers of one or both hands, conducted to the brain where the mind interprets their relationship and comparisons, to determine the exact relative location of a vertebra compared with the ones superior and inferior to it. The condition palpated must tally with the mentally observed comprehension, if otherwise incoördination exists in the palpater—ophosia or oproxia being present.

Function is that normal cellular expansion which expresses the mental equivalent, personifies the intelligent thought, and completes the transformation between innate power and physical personification.

Analysis is the resolving of functions, normal and abnormal, with their comparative qualities and quantities, to location and character of its or their cause or causes, and the consideration of constituent manifestations of life involved; the tracing of material abnormalities forward or backward to their source of Innate Intellectual origin; the detailed segregation, step by step, of original principles from mental creation to physical expression or vice versa.

Pressure. That condition where nerves or nerve fibrillae (soft substance) are entirely surrounded by osseous (hard structure) intervertebral foramina, the lumen of which decreases in size and shape according to the constriction thereof, producing a squeezing or crushing upon the contents passing thru, thus decreasing or intensifying the quantity or quality of Innate Intellectual resistance or adaptation.

Nerve-tracing is that exact, searching, physical palpation made by the Chiropractor upon the patient to prove the direct philosophical connection between Innate Intelligence and tissues, starting at location of function abnormally expressed; to analyze the path or paths of a nerve fibrilla or fibrillae which transmits the connective life elements in normal or abnormal, to ultimately reach the specific subluxation and site of pressure. The subluxation being prominent and *first* considered, the plan of procedure is reversed; viz., proceed from that to locality of incoordination.

Adjustment. The connecting of Innate Intelligence into thoro and unhindered relation; restoring mental co-ordination with the physical elements to make one unit; the name given to what a Chiropractor does when he permits the restoration of equilibrium between the above two essential principles—creation, etherially and expression, physically; hence to open occluded foramina thru which immaterial foruns of life should be constantly transmitted; to release pressure upon nerves; to return absent fundamental inherent intellectual power; to adjust deranged equipoise between Innate and the physical.

Traumatism is that abnormal condition wherein the external fractional part of a concussion of forces is greater than the internal resistance, which is the expression of an intellectual adaptation, hence a recoil takes place which ends with the damage of the body assailed. providing that be the weaker one. In man the conditions resolve into three quantities, sufficient to produce subluxations, dislocations and fractures. Traumatism is a term used to define the condition before or after the union of an extraneous force which comes in contact with the internal wherein the latter suffers thereby. The resistance may be much reduced by previous subluxations, producing pressures upon nerves, hence shutting off the transmission of currents which are personified in that active state known as resistance; hence the external (which may be weaker than the internal when normal) may do considerable damage to the patient who is now not normal. Portions may be weaker than others, hence the damage may be concentrated at one place more than others. The study of the pathological and traumatic differences is only equaled by the knowledge of Chiropractic Orthopedy.

Brain Nerves is used to express the additional idea of the place of origin of all nerves in contradistinction to the terms "spinal," "cranial" or "sympathetic

nerves." To The P. S. C. philosopher all nerves originate within the brain, and those with which he will have to deal have emergence in cables at the magnum foramen, the aggregation of which cables is the spinal cord. this form they proceed downward and have many points of emission thru intervertebral foramina passing to all systems of viscera, organs and tissues. Brain nerves are the material connection between brain and tissues, conveying thru them the impulses that are formed in the brain and then propelled over these transmitters to express their individual characteristic action. means a continuous circuit to and from the seat of all intelligence (the mind or Innate intelligence) is established. Break the circuit completely and death, or partially by subluxation and dis-ease, are the relative products. The Chiropractor has no "spinal" or "sympathetic nerves" to worry about. All fibres expand from the brain, thus the preference for "Brain Nerves."

Anterior—To the front of the body. "Before, or toward the front."—Webster.

Posterior—To the rear of the body. "Situated behind."—Webster.

Superior—Above the object referred to; elevated to that which is considered. "More elevated in place or position."—Webster.

Inferior—Below the given point being studied. "Lower in place, rank."—Webster.

Left—To that side of the median line of the normal position of the vertebra or vertebrae investigated.

Right—The opposite of left.

These terms are used to designate the normal or abnormal positions of a vertebra or vertebrae, also indicating the direction to which it or they must be adjusted. Each is used regardless of whether the patient stands, sits or lies; no matter what position or angle thon may be in.

A concussion is that condition wherein there is a violent union of force with matter; where the volume of vibration is sufficiently strong that when it reaches the corporeal object it disturbs or makes abnormal its molecular positions beyond and away from normal, so that it cannot perform the work for which its normal shape and form was created. Each object is made into certain

shapes determined by the locations of its atoms and To induce a violent action upon the action, molecules. coming in contact with the internal resistance, the union of force with matter in action upon the outside, and have a union of force with matter internally to resist the other, is to produce "jar" as a result, which destroys this continuity of units, therefore makes abnormal the positions of its larger component parts, thus destroying the natural posture of one by comparison with the other. Where the forces are equivalent, 100 per cent resistant 100 per cent, it would be a normal vibration, or if the vibration be less To have more than that it would still be an impression. vibration externally than the body meets it with internally is to induce a condition in which the body is agitated, jarred, concussed, shocked, because of the inability to handle what comes to it in a normal manner. (See article on "Recoil" in this issue.)

The Torso is that portion of the complete skeleton minus everything but the vertebral column complete, the ribs and the sternum. While torso is a term used more in art than in anatomy or osteology, yet its application can be made in this instance.

Symptomatology, Chiropractically speaking, is the observation of a complete list of symptoms existing within one person; the classification of them into zonic groups; the separation of these into organical locations; the analysis of them, as effects, with the respective specific vertebral subluxations, all to the end of the correction of that cause to reverse the symptoms, as abnormal effects, back to normal quantity of function, per a given space of time under observation for the purpose of restoring health so that the given set of symptoms that were felt by the patient are now not sensible.

ORDER OF SUBJECTS.

- 1. Vertebra and its title.
- 2. Superficial palpation and landmarks.
- 3. Normal position and articulations.
- 4. Subluxations described and illustrated.
- 5. Relative positions of adjacent vertebrae.
- 6. Where nerves are impinged.
- 7. How and what makes pressures.
- 8. Functions and organs involved. Location of.
- 9. Adjustments necessary to correct each.
- 10. How to give adjustments correctly.
- 11. What means, and portions thereof, to use.
- 12. What diseases to adjust this vertebra for.

CHAPTER VIII.

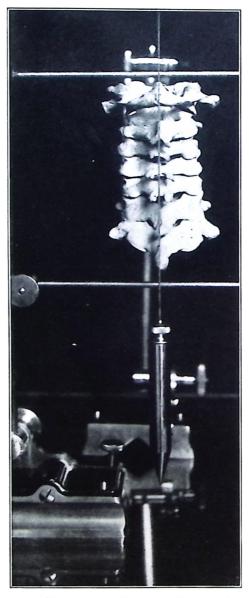


Fig. 14. Seven Cervical Vertebrae on standard. *Posterior* view. Notice relationship between all spinous processes and position of plumb line.

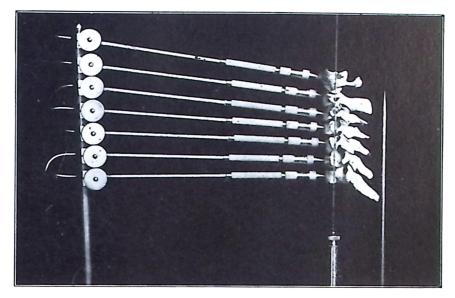


Fig. 15. Left lateral view of seven cervical.

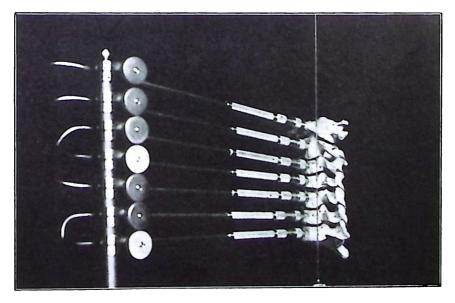


Fig. 16. Left latero-posterior view of seven cervical, showing foramina through which brain nerves emit.

CHAPTER IX.

THE CERVICAL VERTEBRAE.

These are the smallest and most delicately constructed of the entire column, and are especially adapted to the great mobility of the neck. The bodies are generally concave from side to side on their articular surfaces, owing to the elevation of their lateral borders, and concave from before backward, in consequence of

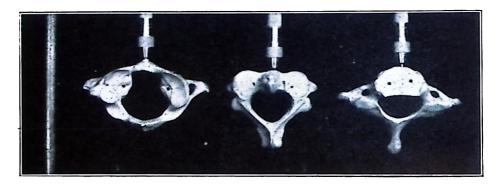


Fig. 17. The three peculiar cervical-Atlas, Axis and 7th. Superior view.



Fig. 18. The three peculiar cervical-Atlas, Axis and 7th. Inferior view.

the front border extending downward. The arches are broad but comparatively shallow, and the spinal foramen which they enclose is heart-shaped, gradually enlarging from the second to the fifth and diminishing from the latter to the seventh. The spinous processes vary markedly, being wanting usually in the first cervical vertebra, large and strong in the second and seventh, and small and bifid in the intermediate vertebrae. The laminae are long and narrow, while the pedicles are directed backward and outward. The articular processes, situated at the junction of the laminae and pedicles, have their surfaces directed upward and backward above, and downward and forward below. The transverse processes are not strongly developed, but are reinforced by the costal processes which extend from the sides of the body and join the transverse processes at their extremities by a bridge of bone, thus enclosing the vertebral foramen.

The Bony Landmarks of the Neck are very few, but they are very important. They can be ascertained by pressure or palpation, and by changing the relative positions of the head and trunk.

When the body is upright, with the shoulders squared and the head held so that the face looks straight forward. a line drawn obliquely from the occipital protuberance along the body of the lower jaw to the chin is about parallel with a line drawn from the lower border of the first dorsal vertebra to the top of the sternum; and these two lines may be considered as the upper and lower limits of this region. The atlas vertebra cannot be felt at the back of the neck thruout the external parts, but by bending the head forward or backward the spinous processes from the second (inclusive) to the seventh cervical vertebra can be readily detected. The seventh vertebra is always so well marked that it has received the special designation of the "vertebra prominens." Owing to the obliquity of the spinous process of the fifth vertebra, it is on a level with the desk between the bodies of the fifth and sixth. On the sides the transverse processes of the atlas vertebra can be felt in front of and below the mastoid process, and by deep pressure in the supraclavicular fossa the transverse process of the seventh vertebra can be distinguished. About a finger's breadth above the latter, the head being moved from side to side. the anterior tubercle of the sixth vertebra is perceptible to the touch, which, because of its relation to the overlying carotid artery, is known as the "carotid tubercle."

The costal process in connection with the seventh vertebra is sometimes developed as a movable cervical

rib. Seven large ones of this kind are in The P. S. C. osteological collection.

The cervical vertebrae which present especial features are the first, second and seventh.

Subluxations of these vertebrae are common. The atlas (presenting special features) and the fourth are most commonly subluxated; the atlas would be a close third, the balance diminishing as they go from these centers.

CHAPTER X. ATLAS.

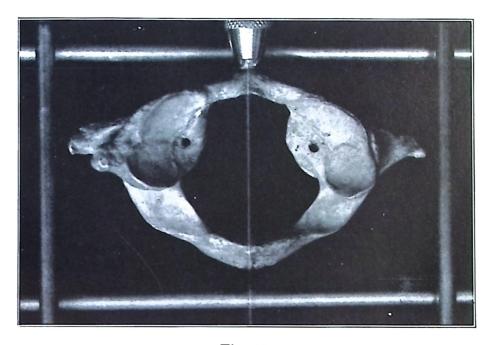


Fig. 19.

1. Vertebra and its title. At P.

Atlas is the fifth vertebral expansion, considering the four superior cranial vertebrae as its predecessors. Atlas is the first *true*, freely movable vertebra.

2. Superficial Palpation and Landmarks.

The first cervical vertebra is called the atlas because it supports the head. It has the appearance of a bony ring, consisting of two arches joined by two broad lateral masses. The posterior arch is more delicately formed than the anterior, but twice as long. On its posterior surface there is a rough, blunt tubercle, but no spinous process, because any such projection would interfere with the freedom of its rotation. The atlas is of greater breadth than any of the succeeding cervical vertebrae, and the lateral masses present, on their upper surfaces, irregular articular facets, which are invariably constricted and have their outer borders raised for the reception of the condyles of the occipital bone. Their shape is adapted to the nodding movements of the skull.



Fig. 20. Right antero-lateral of torso plus head. Skeleton sitting showing how and where fingers are placed in palpating for transverse process of atlas.

Fig. 21. Anterior view of superior of torso, skeleton sitting showing both hands in position. Palpater always stands to the rear and compares both sides.





Fig. 22. *Left* antero-lateral of patient sitting, showing how to palpate for transverse of atlas upon living subject.

Fig. 23. Sometimes the atlas is superiorly imbedded. To ascertain its exact position have the head thrown backward increasing the size of the crotch.

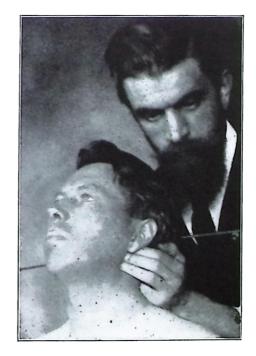




Fig. 24. Head flexed forward to increase the posterior size of the crotch. Palpation is always with three fingers.

Fig. 25. Palpation of atlas. Patient prone, with face flat on table, making the same position as illustration Fig. 20.





Fig. 26. Palpation of *right* transverse, face looking toward camera.

Fig. 27. Palpating both transverse, head on chin, giving the same position, prone as Fig. 21. Notice thumbs are on median line, posteriorly, to compare positions from right to left.



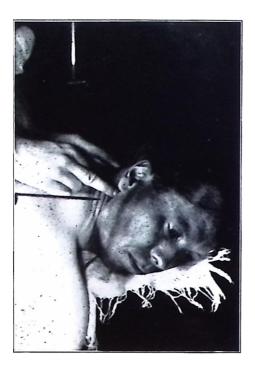


Fig. 28. How to find lamina of either side. Find the spinous process of axis and transverse of atlas and bisect the space between.

Fig. 29. Posterior view showing the same as previous Fig. The center finger drops upon the lamina of atlas.



The transverse processes can be detected at the angle of the lower jaw (mandible, the gonion) on the anterior; the mastoid process of the temporal bone, on the posterior. The angle made by the gonion and mastoid process above forms a superior landmark.

Occasionally the laminae may be felt by examination under the occipital and laterally to the median line. Very rarely it has a spinous process observable at the posterior median line in close proximity to the inferior median of the occipital bone. Its transverse processes, in normal, are always to be felt at the crotch of the condylar processes of the ascending ramus of the mandible and the mastoid process on each side.

Each transverse process should be located at the center of this crotch from superior to inferior, and posterior to anterior. Placing the tips of the third finger on each transverse process, facing the patient from the rear, would develop the fact of neither side being more prominent laterally than its opposite.

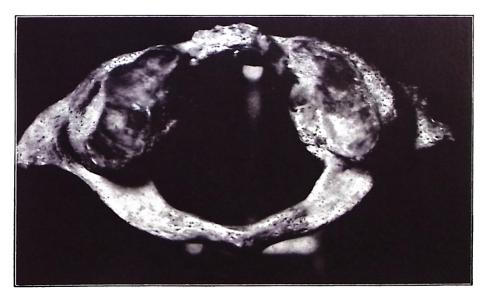


Fig. 30. Enlarged view of specimen which shows great variation in transverse processes.

It occasionally happens that the transverse processes vary in shape (Fig. 30), breadth or length from the normal median or horizontal lines. This may be due to fractures, direct injuries, osteomalacia, other diseases or lack of development in foetal or the expanding age.

The product is an abnormal configuration, so that lateral palpation is a difficult matter. The atlas has no spinous process or other means of locating its position than the above. The next best diagnostic feature is the natural posture of the head when under surveillance.

If it flexes to the right and forward (Fig. 31(it has a subluxation that is left superior and anterior. If left and forward (Fig. 32) the subluxation is right, superior and anterior. If to the right (Fig. 33) it would be superior left. If to the left (Fig. 34 it would be superior right. If anterior (Fig. 35) it would be superior. If





Fig. 31. Head leaning to right and forward.

Fig. 32. Head leaning to left and forward.

to the rear (Fig. 36) it would be inferior. If backward and to the left (Fig. 37) it would be left, superior and posterior. If right and backward (Fig. 38) it would be right, superior, and posterior.

The above is exemplified when you recognize Mr. or Mrs. Blank by the position and manner in which thon carries the head in some abnormal position. Even tho your view be a posterior one, it proves the existence of a subluxation the more certainly.



Fig. 33. Head leaning to the right.

Fig. 34. Head leaning to the *left*.



Fig. 35. Head bent to the anterior



Fig. 36. Head flexed to the posterior.



Fig. 37. Head flexed to posterior and left.

Fig. 38. Head flexed to posterior and right.



Fig. 39. Posterior of occiput, atlas and axis. Normal.

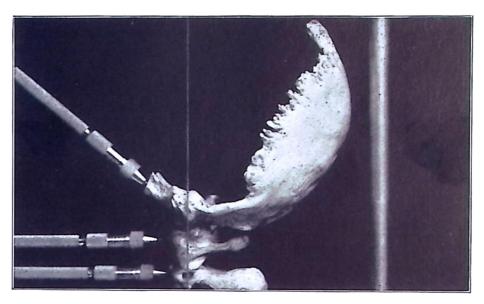


Fig. 40. Left *Lateral* view of occiput, atlas and axis. Normal.

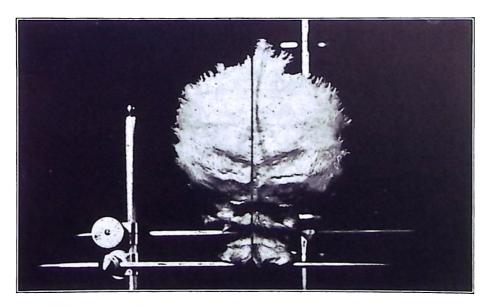


Fig. 41. Left superior, or right inferior subluxation. Both sides are equidistant from the perpendicular median line. The head would tip to right, and if the subluxation be anterior or posterior, the slant would be according.

Certain swinging positions and motions of the head and body characterize your friends or relatives, the abnormalities of which depend upon subluxations for their continued existence. Inquiry might not reveal thous knowledge of such, yet the Chiropractor will reveal it every time. Close observation of the actions of any or all of your patients will enlarge your scope upon this vital subject and prove that after all, observation and knowledge of the difference between the normal and abnormal gaits and movements are a great advertiser of the conditions and contours of the spine even tho the bone observed be a stranger.

3. Normal position and articulations.

The articulations are five in number, two superior, two inferior and one articular facet for the anterior facet of the odontoid.

It articulates superiorly with the condylar facets of the occipital, inferiorly with the superior articular facets of the axis, anteriorly with the anterior articular facet of the odontoid process.

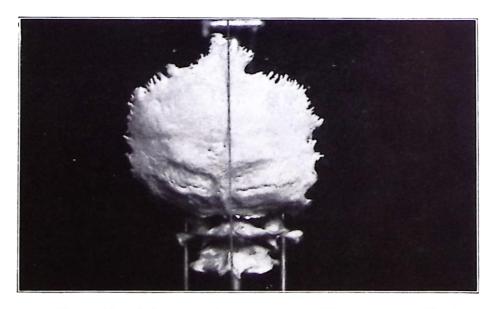


Fig. 42. Right subluxation. The perpendicular rods show the right transverse process too far to the right of the median line. The skull would appear unset upon its base.

Upon the under surfaces the articular facets are circular and slightly concave, being directed downward and inward, so that they enable the atlas to rotate readily upon the axis vertebra below. Below the inner border of each superior articular process there is a small tubercle for the attachment of the transverse ligament, which divides the right of the atlas into two unequal parts, the anterior receiving the odontoid process of the axis, and the posterior being occupied by the spinal cord containing all the nerves as they pass externally from the brain. The costo-transverse processes extend farther than those of any of the other cervical vertebrae for the attachment of muscles, which assist in rotating the head. Thru the

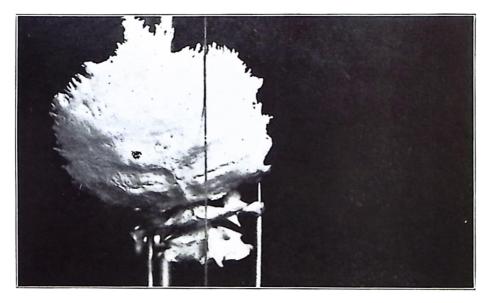


Fig. 43. Left inferior subluxation. Notice that the transverse is to the left of median line, as is also the posterior tubercle of the posterior arch of the atlas. The head would be to the left and drooping laterally.

foramina in these processes the vertebral arteries ascend and, turning backward and inward, are accommodated upon grooves behind the lateral masses, which also transmit outward the first pair of *brain nerves*. These grooves are sometimes converted into foramina by the development of bony spiculae arching across their borders.

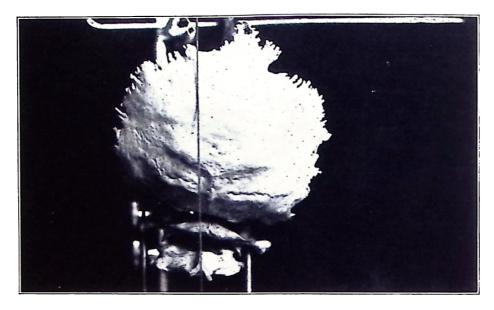


Fig. 44. Right inferior subluxation. Close study of the illustration proves its position. This might exist with the combination of 41, 42 or 43, and would add the drawing of the head and neck posteriorly upon the shoulder.

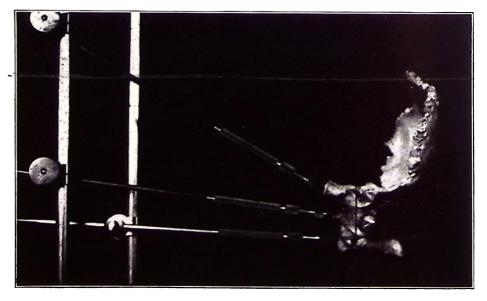


Fig. 45. Left lateral view. Posterior subluxation, which might exist with any one or more of the combination of Fig. 41, 42, 43 or 44, and would tend to show that side of the head and neck superior and the other side inferior upon the chest.

4. Subluxations described and illustrated.

Subluxations of atlas, considering from position of transverse processes, would be anterior or posterior; superior or inferior; or to the left or right, or any combination of these.

6. Where Nerves are impinged.

In normal position there will be no pressure between anterior notches and inferior of occipital. Any subluxation which tends to crowd these two surfaces together, or put these nerves upon a tension by bony displacement, would occasion pressure.

If thru subluxation the right or left transverse be prominent on either side, it would make pressure upon these nerves *encircling the notch* on that side, and vice versa.

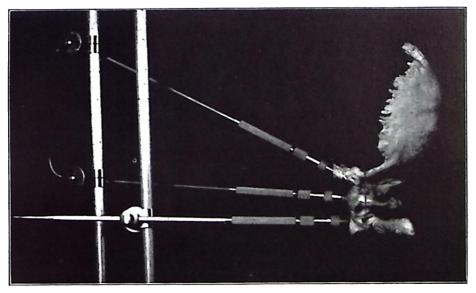


Fig. 46. Left lateral view. The opposite of Fig. 45, and would involve similar conditions in opposite directions.

If either transverse be prominent to anterior or posterior the same results would be manifest, because of the same conditions.

The inferior notches also permit the exit of the second pair of brain nerves, therefore are subject to pressure upon one side or both; the same as is noticeable on the superior.

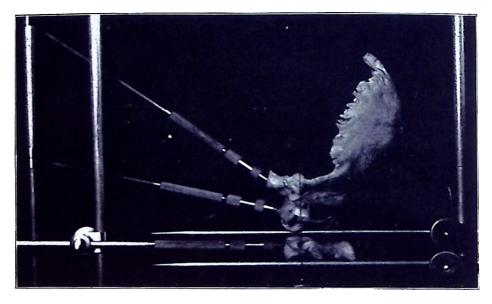


Fig. 47. Left lateral view. Superior anterior subluxation.

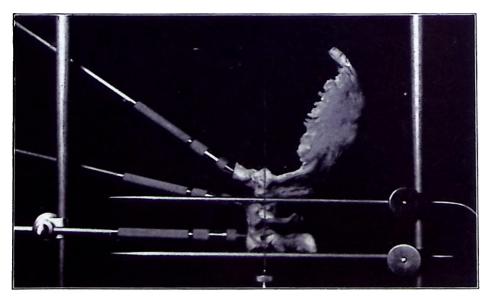


Fig. 48. Inferior anterior subluxation. The student must examine the medium as well as the horizontal lines to bring out these differences.

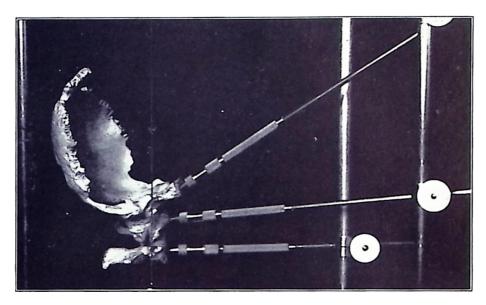


Fig. 49. Right lateral view. Posterior subluxation. Study the position of the transverse process compared with the plumb line.

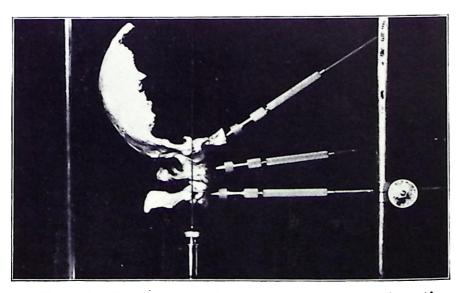


Fig. 50. Right lateral view. Anterior subluxation. The opposite of Fig. 49.

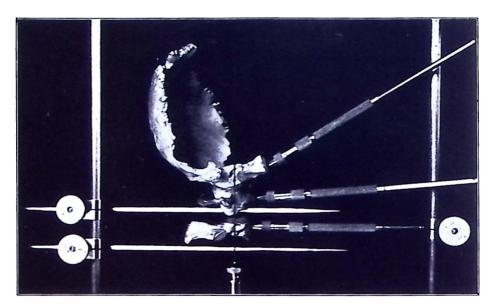


Fig. 51. Right lateral view. Superior posterior subluxation.

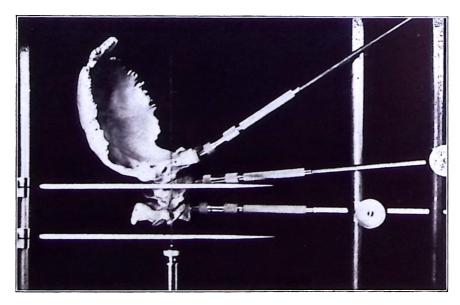


Fig. 52. Right lateral view. Inferior, posterior subluxation.

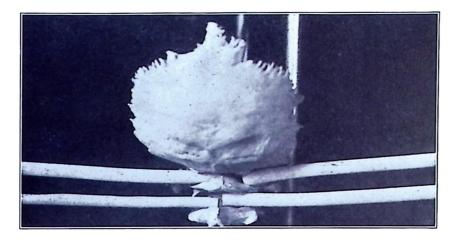


Fig. 53.

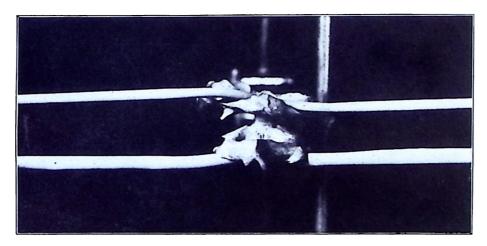


Fig. 54.

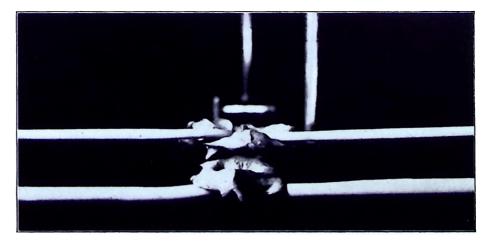


Fig. 55.



Fig. 56.

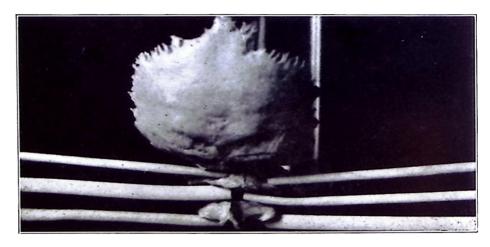


Fig. 57.

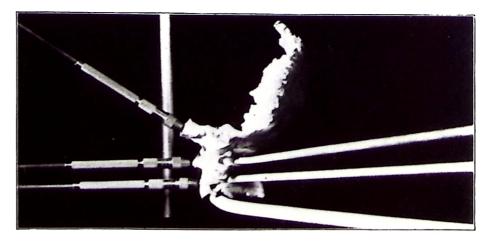


Fig. 58.

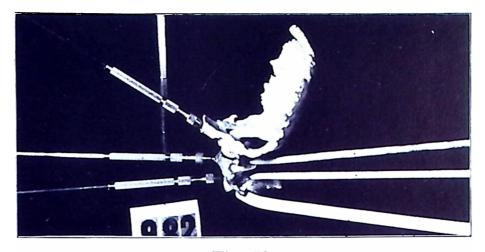


Fig. 59.

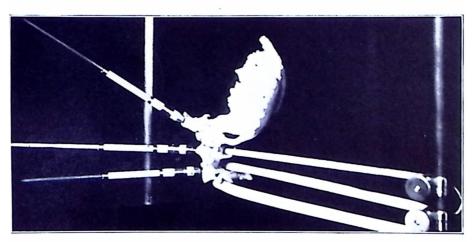


Fig. 60.

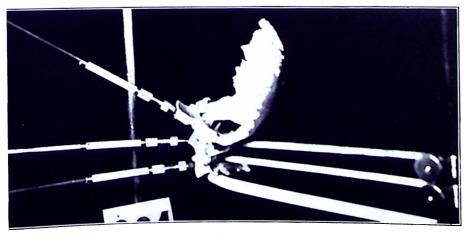


Fig. 61

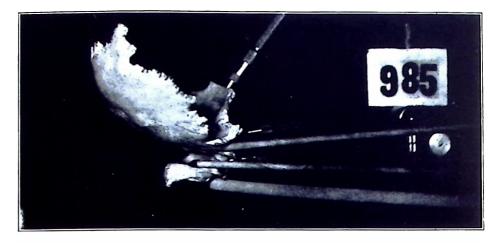


Fig. 62.

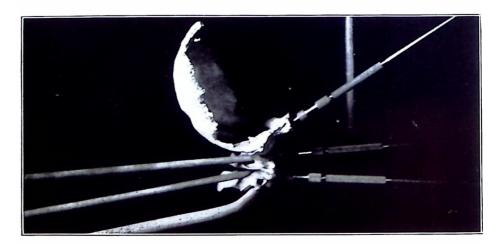


Fig. 63.

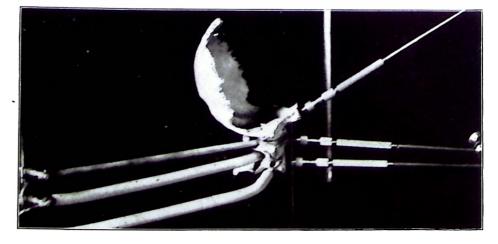


Fig. 64.

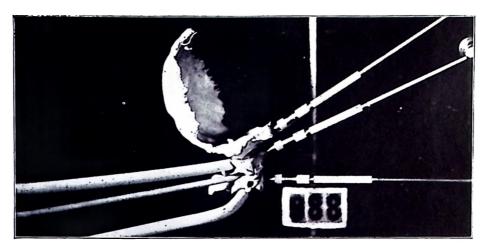


Fig. 65.

Fig. 53. Four large nerves in foramina. Vertebrae normal in position.

Fig. 54. Left superior or right inferior subluxation, showing pressures upon nerves emitting at left superior and right inferior foramina.

Fig. 55. Right subluxation, showing pressures upon both sides of superior of atlas.

Fig. 56. Left inferior subluxation, showing pressures upon left superior and inferior and upon right superior of atlas.

Fig. 57. Right inferior subluxation, showing pressure on left superior, right superior, and right inferior of atlas.

Fig. 58. Subluxation is *posterior* of left transverse process. Pressures are upon superior and inferior of atlas.

Fig. 59. Subluxation is anterior of left transverse process. Pressures the same as in Fig. 48.

Fig. 60. Superior and anterior subluxation of left transverse process. Pressures the same as in Figs. 48 and 49.

Fig. 61. Inferior and anterior subluxation of left transverse process. Pressures identical at Figs. 48, 49 and 50.

Fig. 62. *Posterior* subluxation of right transverse process. Pressure upon superior and inferior of atlas on right side.

Fig. 63. Anterior subluxation of right transverse. Pressure same as Fig. 62.

Fig. 64. Superior posterior sublaxation of right transverse. Pressure upon superior of atlas.

Fig. 65. Inferior posterior subluxation of right transverse. Pressure upon inferior of atlas.

7. How and What makes Pressures.

Tightness of nerves produced by and pressure then created upon one or more sides by bone makes the same abnormal functions as, and is equivalent to, entire pressure, and is a constricting force modified. A superior subluxation of atlas, determined by palpation of either or both transverses, would make compression between that notch and the occipital of frequent occurrence. the right has this condition, the left side usually shows the opposite, altho both sides are easily palpated and might be found with pressure, therefore, tender. The side most prominent would have more pressure as a general rule. Occasionally where the one transverse process is superiorly prominent, the opposite inferior will be the greatest point of pressure upon the second pair of nerves. There is no set rule for this but it must be made specific in each case by digital palpation and nerve tracing.

8. Functions and Organs involved. Location of.

According to extended experience the nerves emanating from the superior of atlas convey mental power to express all the functions of and in the brain, in the majority of cases controlling the functions of hearing as far as concerns acousticity; the repairing of cranial fractures. A large majority of the nerves found terminating in brain and skull, enter from the spinal cord at this point.

9. Adjustments necessary to correct each.

Each subluxation of the atlas must be analyzed according to its abnormal position; the adjustment, in general, depending upon the correction of the same to a median line both horizontally and perpendicularly. I know of no other vertebra requiring such exact skill to accomplish the right results.

To adjust the left superior or right inferior subluxation (Fig. 66), force must be so directed as to throw atlas to right or left and also inferior or superior from or toward the skull. The direction of this simultaneous movement being inferior or superior, to the right or left.

Right subluxation (Fig. 67). The movement would

be directed on right transverse and to the left.

Left inferior subluxation (Fig. 68). Adjusting force should be left upon left transverse given obliquely superior and to the right, thus returning the left superior condition to normal.

Right inferior subluxation (Fig. 69). Further combinations of these might be met with as to whether the transverses be anterior or posterior as is illustrated in Figs. 66, 67, 68, 69 and 70.

Posterior subluxation of left transverse (Fig. 70). The adjustment would be anterior, and in any other

direction according to combination.

Anterior subluxation of left transverse (Fig. 71). The opposite of Fig. 70 would be posterior, and in any other direction according to combination.

Superior anterior subluxation of left transverse (Fig. 72). The adjustment would be inferior and posterior.

Inferior anterior subluxation of left transverse (Fig. 73). The direction for this adjustment would be superior posterior.

Posterior subluxation of right transverse (Fig. 74). This adjustment would be given on the right transverse process in an anterior direction.

Anterior subluxation of right transverse (Fig. 75). The anterior subluxation is adjusted upon the same process in the opposite direction, hence posterior. This is the opposite of Fig. 74.

Superior posterior subluxation of right transverse (Fig. 76). The superior, posterior subluxation is adjusted inferior anterior.

Inferior posterior subluxation of right transverse (Fig. 77). The inferior, posterior subluxation is adjusted superior anterior.

10. How to give adjustments correctly.

All adjustments are based around the principle of a hammer-and-nail-driving illustration. Carpenters place



Fig. 66.



Fig. 67.



Fig. 68.



Fig. 69.

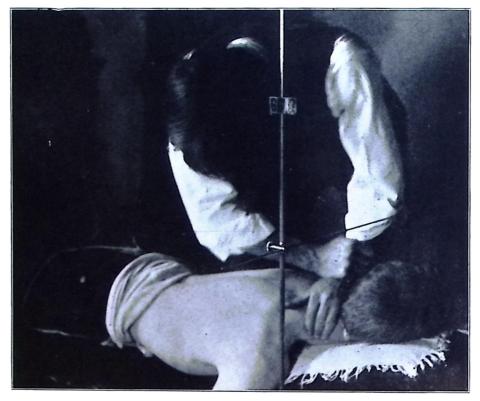


Fig. 70.



Fig. 71.

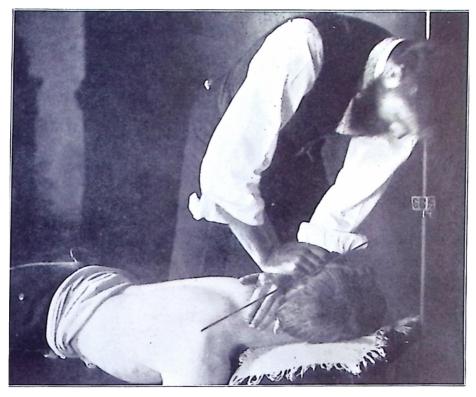


Fig. 72.



Fig. 73.



Fig. 74.



Fig. 75.



Fig. 76.



Fig. 77.

the board and determine to what direction the nail must be driven to effect and perform the service required.

After palpating, the position of the atlas has been estimated, the direction in which to adjust has been considered, and in what direction to apply the force must be definitely understood. A nail has three essentials, viz., the head, shaft, and point. The junction of thumb with wrist, superior portion, is equivalent to the nail head; just anterior to the pisiform bone of the head of the same hand is similar to a nail point; a diametrical line between these two points is your nail shaft. This illustration refers to the nail which you make of the hand which is in contact with the patient's body, therefore the thing driven.

11. What means, and portions thereof, to use.

A very easy and effective adjustment is what is known as the "T. M.," Thumb Move. The thumb is placed over, under, to one side or on the spinous or transverse process to be adjusted. The head is then directed to the opposite of that direction in which you desire to give the adjustment. This movement is very effective under the direction of a competent teacher to correct any wrongs committed should there be such. Very little force is needed upon the part of the adjuster. The head is drawn way back or to the side, and then when almost to its limit, give it a quick jerk farther backward, at the same time giving a decided emphatic adjustment with the thumb, which has remained firm upon the process. Till 1899 this was the only means used at The P. S. C. for adjusting cervicals. In these, patient remains sitting. It is adaptable to almost any location and can be used readily if the patient is so placed that he does not care to undress. (See Axis Adjustments.)

In driving a nail, the impetus is given with the hammer while the nail remains firmly placed and just where it must enter. So with the nail hand, it remains firmly placed in contact with the vertebra to be adjusted.

The hammer is a thing separate from the nail, but the opposite hand of the adjuster is to him what the hammer is to the nail. From it approximately twothirds of the power necessary to give an adjustment is derived, the remaining one-third having its source in the hand which acts as the nail.

The hammer must raise and lower apart from the nail, to derive sufficient force to give that quick, metallic, springing, rebounding impetus necessary to drive inward the nail. Any amount of pushing of the hammer in direct contact with the nail would be very ineffective. A light hammer with a heavy nail, with that quick, one-second, piano or typewriter touch will drive it deeper than a hundred-pound push could do in an hour.



Fig. 78. Nail, hammer and board. Hammer is upraised ready to give nail an adjustive movement. The right way to do.



Fig. 79. Hands clasped around hammer which is on nail ready to "thrust" the nail into the board. The wrong way to give an adjustive movement.



Fig. 80. Pointer indicates nail point of nail.

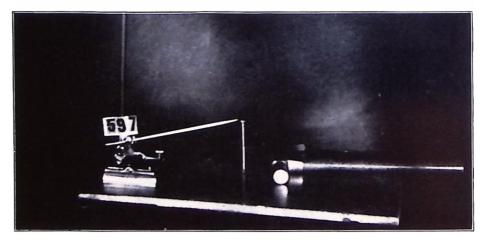


Fig. 81. Pointer indicates nail head of nail.

The hands must proceed in like manner. The nail must have a head, a shaft and a point. The superior hand, working like a hammer, has its head in the same place that the inferior hand has its nail point. The hammer head of the one hand must be placed on top of the nail head of the opposite, and the two firmly held together, both resting lightly upon the patient's vertebra; then with that famous Chiropractic one-second adjustment, the vertebra has assumed its normal position in acute cases or partially so in corresponding chronics.

The force in all adjustments is derived from the entire arms and shoulders. To make adjustments effective they must be given in that manner that you would use in driving a nail. The adjustment of the atlas is by

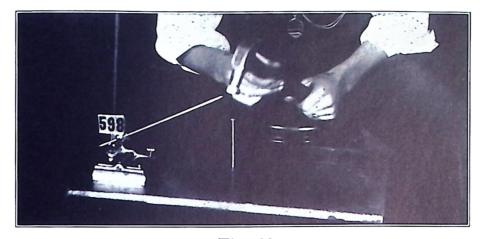


Fig. 82.

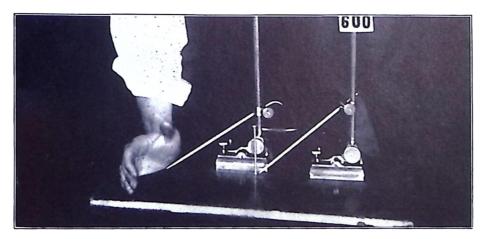


Fig. 83.

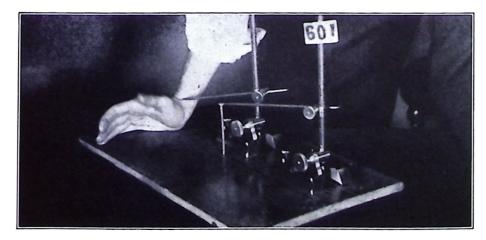


Fig. 84.

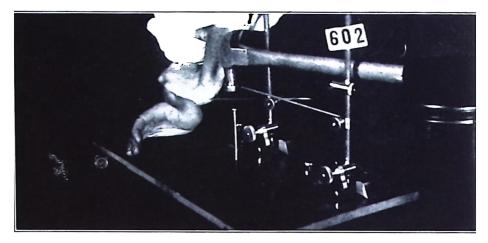


Fig. 85.

Fig. 82. Pointer shows hammer head of hammer upraised and ready to give that movement which all mechanics know will put the nail where desired.

Fig. 83. Pointers bring out nail point of nail and by comparison show nail point of hand.

Fig. 84. Pointers show nail head of hand and nail by comparison.

Fig. 85. Pointers show hammer head of hand firmly and properly placed over nail head of opposite hand. The same is true of hammer head of hammer which is raised over nail head of nail.

far the most delicate and requires the best talent and careful work upon the part of the adjuster.

Careful study shows it to be in a peculiar position, especially when the patient lies upon the bench with his head lying laterally.

The adjuster stands upon one side or the other, usually, if he deems it best, to adjust the least prominent side first, the object being to loosen the joint; then reverses and adjusts that which is more noticeable to return to normal position. A deviation is made in the manner of exactly locating the lamina in cases of patients prone.

Locate the spinous process of the axis and transverse process of the atlas, bisect this space and the center point close to the skull will prove that underneath is the junction line of the lateral and posterior portions of the lamina of the atlas. (See Figs. 28-29.)

The peculiar position of the adjusting of laminae makes it an object to shift, on our nail hand, the point of the nail to the center of the fifth carpal bone, which is placed in direct contact over the place previously palpated.

In adjusting the transverse process the heel or nail point can be used quite effectively, providing the hand and forearm be crotched into that space, but I prefer the first position, viz., closing the hand and placing the corner made by the articulation of the fifth metacarpal with the phalanges; this being placed upon the transverse is very effective, from which atlas can be adjusted in any of the six directions upon which are based all movements.

In this position the nail head is the superior portion of the hand, the opposite or hammer hand being placed in appropriate position thereto, so that the quick, combined movement of both allows all force to be focalized on that spot which is in direct contact with the process of the vertebra being adjusted.

12. What diseases to adjust the atlas for.

Insanity, "mental diseases," conditions which are interpreted as sharp, shooting pains, commonly known as "neuralgia of the head," wry neck, torticollis or torticollis spastica, cranio-malacia, eburnation, cranio-tabes, idiocy, epilepsy, apoplexy and as a combination with hydrocephalus, or its opposite where the skull or brain lacks its normal supply of serum or urea, osteosarcoma, bone tumor, caries and necrosis, ulcers, boils and gatherings, ringing or buzzing in ears, head noises, some forms of deafness, cerebral meningitis, catalepsy, excessive heat in brain, or the lack or excess of any one of the seven primary functions in the skull or brain.

CHAPTER XI.

AXIS.

1. Vertebra and its Title. Ax. P.

The second cervical vertebra is called the axis, because it serves as a pivot upon which the head rotates. It

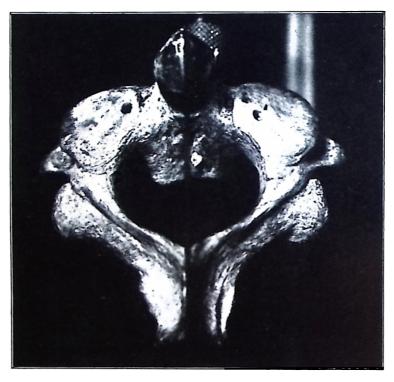


Fig. 86.

is the strongest of the cervical vertebrae and its most distinctive feature is the odontoid process, which is supposed to be the detached body of the atlas, but in osseous development is independent. The pedicles, laminae and spinous processes are remarkably strong. The latter presents a median superior ridge with short, depressed lateral tubercles. The articular surfaces are modified to adapt them to the surfaces of the vertebrae with which they are in contact, and the costo-transverse processes are shorter and the vertebral foramina smaller than in the atlas.

The process on the posterior arch of this vertebra is prominently bifurcated. Its prominence and proximity to the skull makes it an easy mark for direct blows which frequently fracture one prong or the other, or sometimes both.

Try to determine these facts before proceeding.

2. Superficial Palpation and Landmarks.

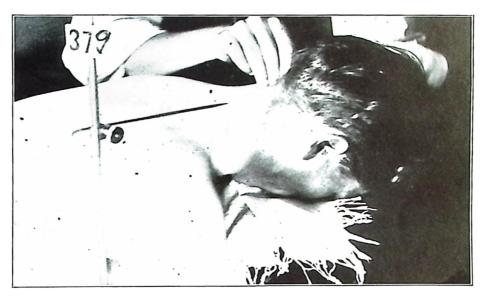


Fig. 87. Head with face downward, patient prone, showing approximate position of axis and how to place fingers to find it.

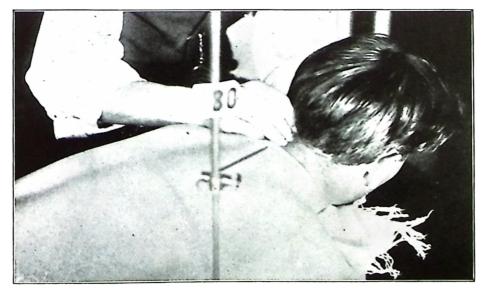


Fig. 88. Head flexed backward, showing how to locate axis with patient prone.



Fig. 89.



Fig. 90.

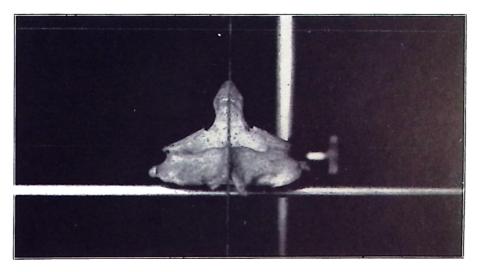


Fig. 91.

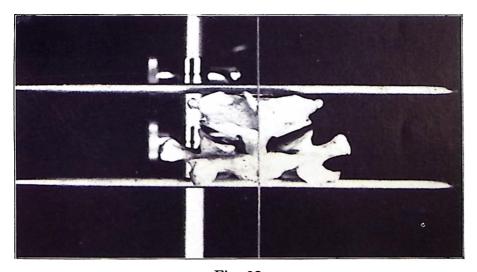


Fig. 92.

Fig. 89. Shows how to palpate with patient sitting with head forward. Always use three fingers.

Fig. 90. Head thrown backward, allowing axis spinous process to drop into median groove on inferior of occiput.

Fig. 91. Posterior view of axis, showing median and horizontal lines.

Fig. 92. Posterior view of atlas and axis. Normal.

Fig. 93. Left lateral view of atlas and axis. Normal.

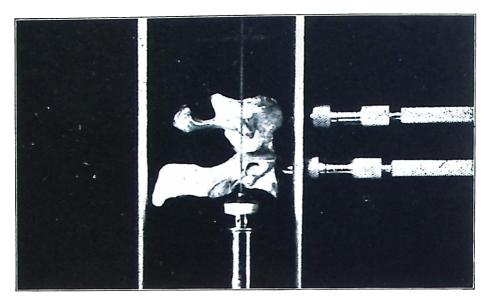


Fig. 93.

Owing to axis having no prominent transverse processes and in such close proximity to the atlas it has only one prominent palpating surface—the spinous process. At the base of the occipital is easily felt this process, which is the first one observable. With the neck flexed posteriorly and inferiorly, the spinous process should fit medianly in the groove upon the occipital. This is the best analytic position to determine the exact position of axis.

The digastric groove of the occipital continued inferiorly would bisect the spinous process of the axis.

3. Normal position and articulations.

Its normal position is to be square with a perpendicular line drawn thru the odontoid superiorly and the centrum inferiorly, and with a horizontal line thru the centrum laterally. It has seven articular surfaces, two prezygapophyses, two postzygapophyses, one anterior, one posterior, one on odontoid, and one on inferior of centrum. The prezygapophyses articulate with the postzygapophyses of atlas.

The postzygapophyses articulate with the superior articular surfaces of third cervical. The anterior facet of odontoid articulates with the surface for that purpose on posterior of anterior arch of atlas.

The posterior ondontoid articular surface articulates with the transverse ligament. The inferior of centrum articulates with the superior of the body below.

4. Subluxations described and illustrated.

In the majority of cases where axis is subluxated it can be generally proven whether it is the atlas or axis, or both, by comparison. Palpation of the transverse of atlas and spinous of axis will prove this a fact in 90 per cent of such supposed conditions. Examination of the axis spinous process will often show it to be left or right of the median line. Broad experience has proven that adjustment of this, with an object of returning it to a median line from any abnormal position, has accomplished splendid results. The only case of serious injury on record at The P. S. C. was one wrongly adjusted on axis in which the patient turned black and gasped what seemed to be her last breaths. Immediate action was taken in returning that vertebra to where it formerly Subsequent adjusting corrected the causes of the troubles which she had. If ways and means were demonstrable, it is my opinion that adjustments which are given to axis in the majority of cases aim but to place the atlas easier and quicker.

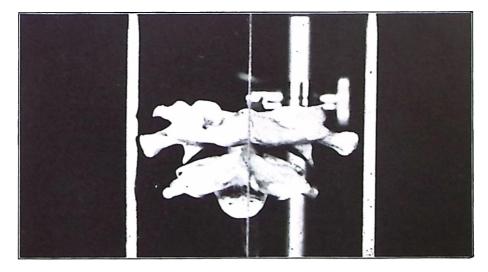


Fig. 94. Left superior subluxation. Detail shows spinous process of axis is to left of median line and closely crowding the posterior arch of atlas.

Fig. 95. Plain left subluxation of the axis.

Fig. 96. The opposite of Fig. 93—right subluxation.

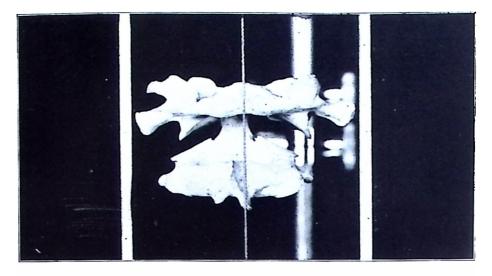


Fig. 95.

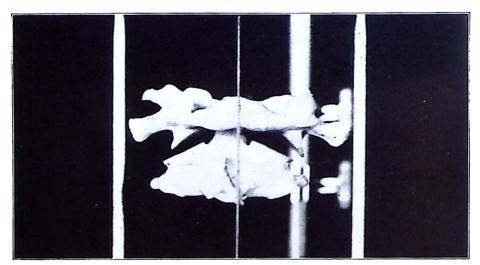


Fig. 96.

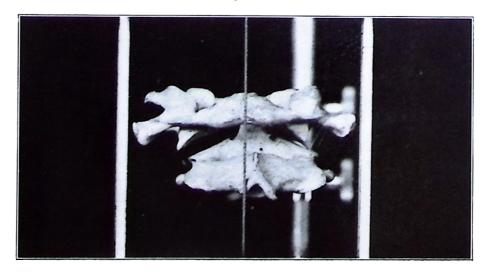


Fig. 97.

Fig. 97. Left inferior subluxation. The spinous process of the axis is distant from the posterior arch of the atlas and combined with a left subluxation.

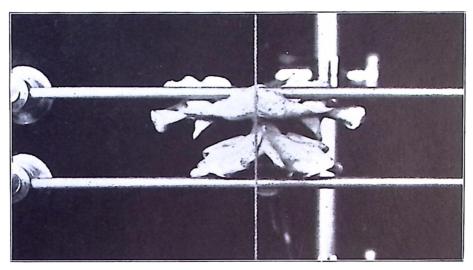


Fig. 98. Right superior subluxation. The spinous process is to the right of median line and closely crowding the arch of atlas upon that side.

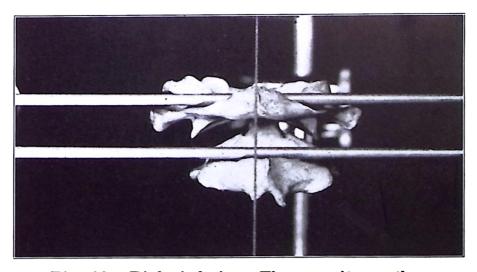


Fig. 99. Right inferior. The opposite, on the same side of Fig. 98.

5. Relative Positions of Adjacent Vertebrae.

In the larger proportion of these enumerated subluxations you will positively find a previous subluxation of atlas which, when compared with the present condition of

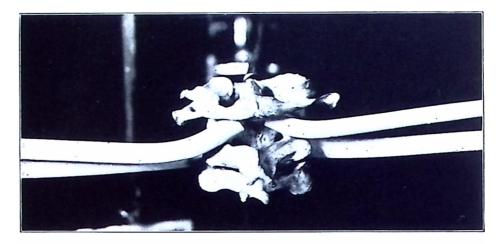


Fig. 100.

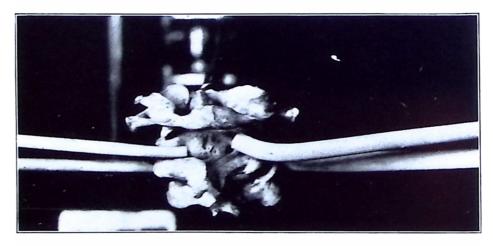


Fig. 101.



Fig. 102.

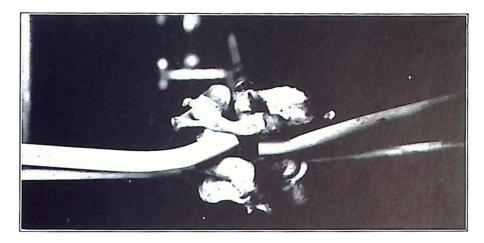


Fig. 103.

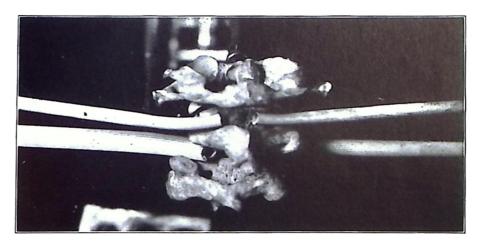


Fig. 104.



Fig. 105.

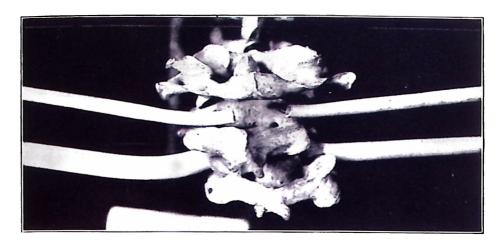


Fig. 106.

Fig. 100. Four large *normal* nerves between atlas, axis and third cervical.

Fig. 101. Left subluxation of axis. Pressures on superior and inferior of axis or left.

Fig. 102. Right subluxation of axis. Pressures on right superior and inferior, also upon left inferior. These various combinations are found and determined by careful nerve tracings.

Fig. 103. Left inferior subluxation of axis. Pressures are inferior right and left.

Fig. 104. Right superior subluxation of axis. Pressures are superior both right and left.

Fig. 105. Right inferior subluxation of axis. Pressures inferior both right and left.

Fig. 106. Left superior subluxation of axis. Pressures superior right and left.

this vertebra, will harmonize as to how one can exist with or without the other. The correction of the atlas, leaving the axis alone, will soon return the axis to normal, or vice versa; altho, if you wish, desire to and will adjust axis and atlas together it can be done, but moderation and care should be used.

6. Where Nerves Are Impinged.

A slight change is possible in any or all foramina without any pressures, but if the general shape or size be



Fig. 107.



Fig. 108.



Fig. 109.



Fig. 110.

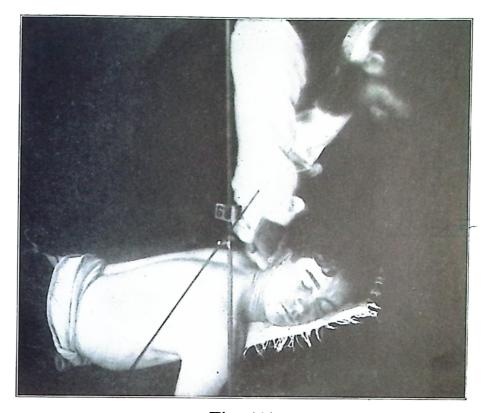


Fig. 111.



Fig. 112.



Fig. 113.

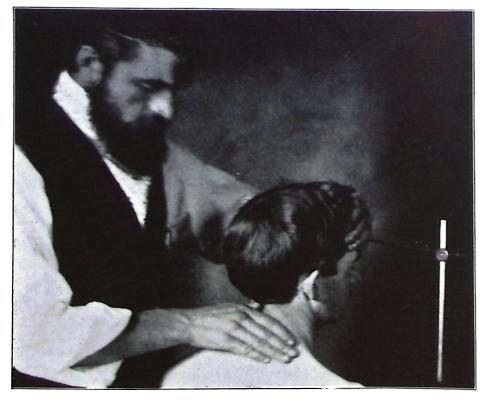


Fig. 114.



Fig. 115.



Fig. 116.



Fig. 117.



Fig. 118.

Fig. 107. Left superior subluxation of axis. In this adjustment the direction would be toward the right and inferior.

Fig. 108. Left subluxation of axis. The adjustment and force would be directed to the right.

Fig. 109. Right lateral subluxation of axis. The opposite to Fig. 106—to left.

Fig. 110. Left inferior subluxation. The opposite of this would be the correcting direction—hence—right superior adjustment.

Fig. 111. Right superior subluxation. Left inferior would be the direction for this movement.

Fig. 112. If right inferior, then the direction would be as this illustration portrays—left superior.

Fig. 113. Left superior subluxation of axis. Using the "T. M." adjustment. The direction would be toward the right inferior, as pointer indicates.

Fig. 114. Left lateral subluxation. Adjustment is with "T. M." Notice direction of pointer. Movement would be to right.

Fig. 115. Right lateral subluxation of axis. Opposite to Fig. 114. Direction would be reversed. "T. M." adjustment.

Fig. 116. Left inferior subluxation. Notice direction of pointer and position of head, also position of both hands. "T. M." adjustment.

Fig. 117. Right superior subluxation. Adjustment, with "T. M.," would be to left and inferior.

Fig. 118. Right inferior subluxation. Direction would be left superior. "T. M." adjustment.

much disfigured, it is certain to produce pressures upon the soft substances (nerves) as they pass outward.

8. Functions and Organs Involved-Location of.

Many cases have been cited and are on record where any affections or functions of the head similar to those of the atlas were the diseases involved in this subluxation. In rare cases fibres spread to one or both sides, involving as much as the entire external muscular control of the skull, neck and upper shoulder. This axis covers the same field as the atlas, and only in rare instances have any keen differences been noted.

- 9. Adjustments Necessary to Correct Each.
- 10. How to Give Adjustments Correctly.

In Fig. 107 the same portions of the hand are used as are portrayed under atlas. Inasmuch as blunders made upon this vertebra are serious propositions, I would advise ease and caution. The movement for this subluxation would be to throw the vertebra to right side and inferior, thus placing it to a medium perpendicular line and by its rotation adjusting it to a normal in that direction.

Fig. 108. With the head lying upon the right side of face give the adjustment quickly to that side from the left. Bear in mind the relation and subsequent changes of rotation that take place when the thorax remains prone and the head in lying on one or the opposite side becomes turned, thus placing all cervical vertebrae in a quarter circle twist. The atlas is perpendicular from above downward while in this position, beginning at this point, is made a complete quarter circle by the reversion of the cervical. The greatest point of obliquity is at the fourth, which is not square to either direction and is on a 45-degree slant; but if a line were drawn thru its spinous process and centrum running for a distance to its rear, it would extend directly upward and outward midway between a horizontal and perpendicular line. The



Fig. 119.

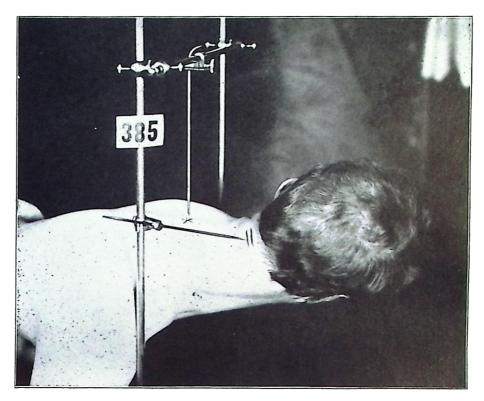


Fig. 120.

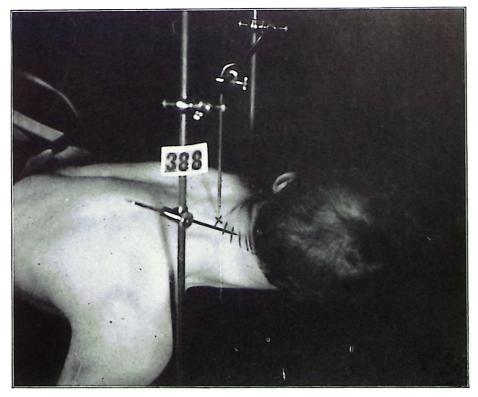


Fig. 121.

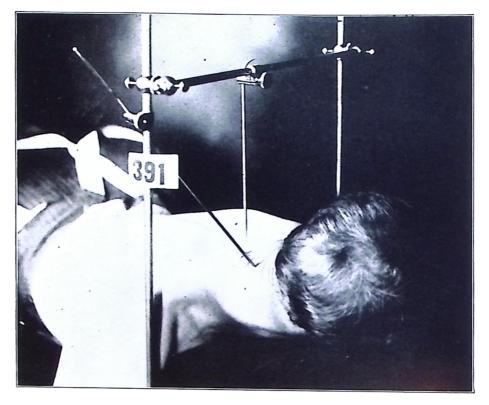


Fig. 122.

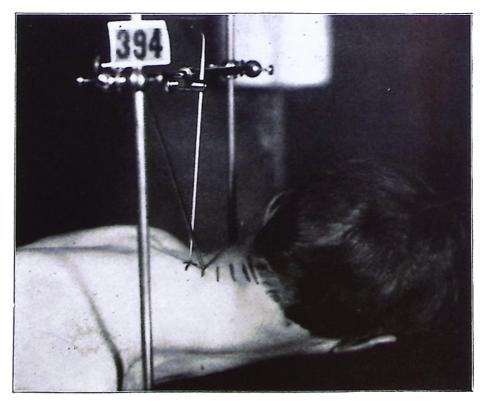


Fig. 123.

Fig. 119. Showing position, on quarter-circle turn, when ready for adjustment. The pointer, indicating spi nous process of axis is horizontal, and superior pointer, showing spinous process of 7th cervical, is plumb. One-quarter circle.

Fig. 120. Patient lying, showing position of third cervical in the quarter-circle curve.

Fig. 121. Patient prone, showing position of fourth cervical in the curve.

Fig. 122. Patient lying down, showing position of fifth cervical around the curve.

Fig. 123. Patient lying, showing position of sixth cervical in the curve.

posterior tubercle of the atlas and spinous process of the seventh cervical would be at right angles.

Fig. 109 would be direct opposite of Fig. 108. If adjusting the axis to the right side, use right hand for palpating and acting as a director and guide, and the left—the nail hand—for giving the adjustment. If the vertebra is to be thrown to the left side, use left hand for palpation and the right for the nail hand. Always remember to figure the degree of slant you have in your case on the bench and adjust accordingly.

As in driving a nail, it is well to determine that all adjustments are, unless symptoms justify otherwise, given perpendicular to the surface and degree of slant. In movements of axis do not drive so obliquely that you force the head from the table.

Fig. 110. The adjustment is superior and to right.

11. What means and portions thereof to use.

The hands are the *only tools* and the means and portions thereof; as spoken of in adjustments of the atlas, hold good with the axis.

12. What diseases to adjust the axis for.

In cases where the region surrounding the atlas transverse, crotch is swollen with boils, tumors, sero-dema or cancers, so that adjustments directly upon the transverse processes of atlas are impossible, we are justified in accomplishing thru axis what ought to be done to atlas alone. The diseases following subluxations of axis

are, in general, covered by those of the atlas, while adjusting this vertebra may accomplish as good or better results. This is where you rely upon your judgment, following what is determined after a very careful palpation. Research has not located a trouble at this subluxation other than what has been mentioned under the similar head of Atlas, the reason being that subluxations occur more frequently and in greater degrees where the greater mobility exists, which in cervical is the atlas and axis and the cervical's center—4th.

CHAPTER XII. THIRD CERVICAL.

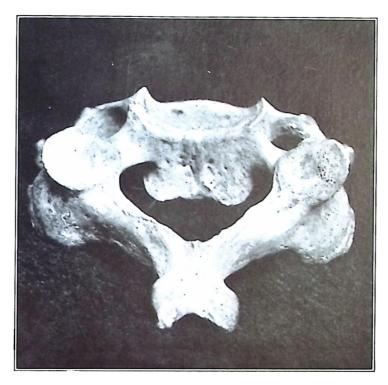


Fig. 124.

Vertebra and its title—U. C. P.

Altho this spinous process is deeply imbedded into the concavity of the posterior of the neck and is approximate to the axis, it is frequently the recipient of blows that fracture the tender projections. Altho we are told these are rare, the Chiropractor finds them quite common. The sudden jerking or forcing the head backward upon the shoulders by a blow on top of the head or forehead will, in a large majority of cases, tense the skull posteriorly until a fracture occurs.

2. Superficial palpation and land marks.

The spinous process of this vertebra, when the person stands erect with the head upright, is, on the average, difficult to fell. The spinous process of the axis being prominent and the third short, the latter usually lying up against it very closely, its bifurcations overlapping, makes it a difficult vertebra to palpate. The best position

for ascertaining its normal attitude is to drop head forward upon the chest, thus spreading the processes apart, and in bowing the neck forward creates a posterior curve, making position more accurately determined.

Of the cervical, the third has the shortest process, and, as a rule, its two bifurcations are less lengthy, and lie proportionately closer to its superior mate than any other. It has no prominent transverse process. In this respect is less often palpated than the axis, altho farther from the occiput.

The following details, point by point, show how to know a subluxation from a normal position.

The success of all adjustments can be considered under the following three heads, with their many subdivisions:

- A. Exact Palpation.
- B. Proper Adjustment.
- C. Proper Results.
- A. Each Palpation Explained.
- 1. History of case.
- 2. Analysis. The where of the effect will always (if Chiropractic be a science) prove the where of the cause. If determining the analysis by palpation of cause first, then that will locate the where of the effect. In analyzing pay close attention to your composite key in reaching your conclusions.
 - 3. Preparation.
 - 4. Proper attitude of patient.
- 5. Determine which hand to be used according to side you are on. Left hand for palpating when on right side. Right hand for palpating when on left side. Left hand is the nail hand on left side, and right hand is for the same purpose when on the right side.
 - 6. Locate nearest landmark.
- 7. Do all palpating, where normal or abnormal positioned vertebrae are concerned, with the first, second and third fingers evenly placed.
 - 8. Approximate the region analyzed.
 - 9. Determine median line.

- 10. Determine where the vertebral processes are *posterior* of the median line. This is done by comparison with three fingers and three vertebrae, and with a gliding movement on top of the spinous processes.
- 11. Find whether right or left of the median line by comparison on left or right side of the vertebral processes of the vertebrae above or below. This is done by a running movement of the fingers along each side.
- 12. The spinous process must be exactly located and spaces discriminated between to ascertain whether it crowds the inferior one. If so, it is an inferior subluxation in addition to the other positions; if too close to the one below, it is superior. This is determined by placing the center finger on the posterior process and dropping the finger above into the space between that and its contiguous process, and the other below it, and then compare the relative spaces. This is determined, not by a running movement, but by a stationary comparison. The work thus far has been with the patient sitting.
- 13. After ascertaining these points and an analysis of all vertebrae, we are ready to have the patient lie on the adjusting table. In doing this care should be utilized and directions given such as will place them in position with the least possible wrenching of the body.
 - 14. See if the width of your table is correct.
- 15. Observe whether the position of your patient is correct in relation with the adjusting table.
- 15½. See that the shirt or adjusting garment is rolled or opened so that it remains out of your way until you are thru giving the adjustment.
- 16. Your patient prone, then determine which hand must again find the subluxation that you had previously found when sitting. The right hand palpates when standing on the left side, or the left hand palpates when standing on the right side. Having approximated the region and located the subluxation exactly, let the middle finger of the hammer hand remain, drawing toward you, so that your hand is off, yet adjoining the process, taking away the first and third fingers, placing them under the first. By then laying that hand close to the back it leaves you an index pointing to the subluxation.
 - 17. Draw skin with finger to position determined.

- B. Proper Adjustment.
- 1. Determine whether to use nail points 1, 2 or 3 according to Fig 150. One is used exclusively for "T. M." adjustments; two on all dorsal, lumbar or sacral adjustments; three exclusively for cervical adjustments.
- 2. The nail point of the nail hand that adjusts is now placed in relation to the spinous process that has been proven to be subluxated.
 - 3. Proper placing of nail point.
 - 4. Proper placing of nail hand thruout.
- 5. The hammer head of the opposite hand is now placed on the nail head of the hand that remains stationary on the neuropophysis.
 - 6. Proper placing of hammer hand.
 - 7. Proper position of hammer hand thruout.
- 8. When hands are placed properly, determine the direction that adjustments must be made, which is opposite to the character of the subluxation.
- 9. Let hands rest lightly upon the body of the patient. He offers less resistance.
- 10. Let arms be relaxed thruout, altho remaining in position.
- 11. Place your body in that direction to economize forces, and get the more from the less exertion on your part.
- 12. Assume the proper position of arms, elbows akimbo.
 - 13. The feet remain firmly planted.
- 14. Determine the fragility or stiffness of your timber.
 - 15. Wait until patient is relaxed.
 - 16. Concentration of forces in nail point.
- 17. Simultaneous movement of the elbows and shoulders.
- 18. Get the drop of the arms and don't raise them first, but afterwards.
 - 19. Concussion of forces, scientifically applied.
 - 20. Adjustic movement.
- 21. Instantaneous removal of hands from body of patient.

We are now ready to advise our patient how to arise from the adjusting bench so that he offers the least possible wrenching to his adjusted vertebrae. Then advise the one-half or one hour's rest, in which he is prone flat on his back.

3. Normal position and articulations.

Each succeeding vertebra of the cervical has six articular surfaces and when joined with the approximate vertebra above and below complete articulations. Two superior and two inferior articulations thru the zygapophyses. If this vertebra be in normal position it will be in opposition with all its articularions.

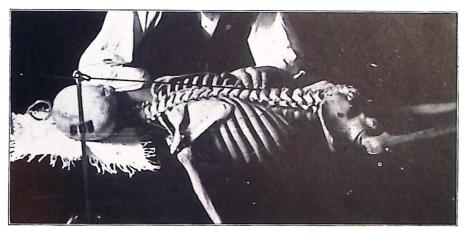


Fig. 125. When palpating, use left hand on right side.



Fig. 126. When palpating, use right hand on left side.

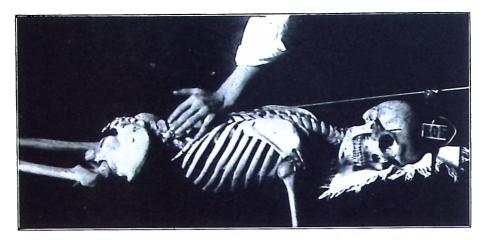


Fig. 127. Left hand is the nail hand on left side.

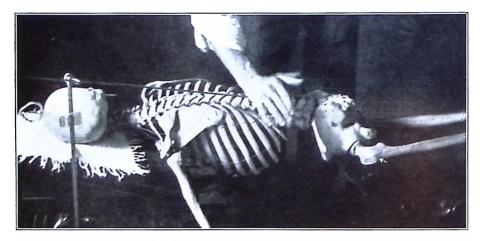


Fig. 128. Right hand is the nail hand on right side.



Fig. 129. Remember to do all palpating with three fingers—first, second and third.

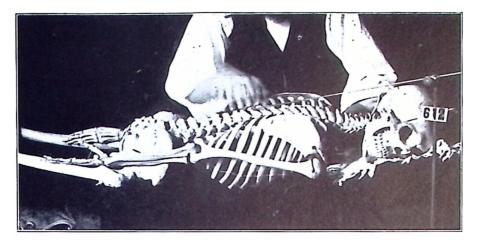


Fig. 130. Notice gliding movement of three fingers portrayed.



Fig. 131. Determining whether subluxation is left or right.



Fig. 132. Determining whether the subluxation is superior or inferior.

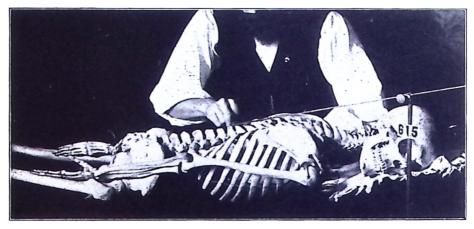


Fig. 133. See Pt. 16A.



Fig. 134. See Pt. 3B.



Fig. 135. Exemplifies Pt. 5, 6, 7B, with pointer showing the hammer head of hammer hand placed over the nail head.

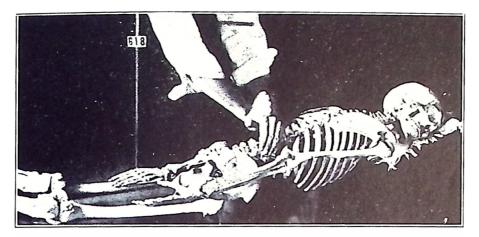


Fig. 136.

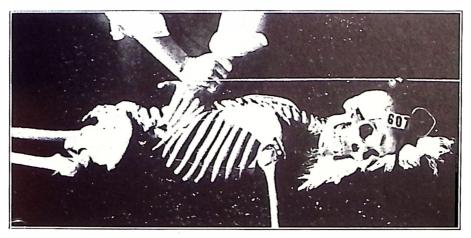


Fig. 137.

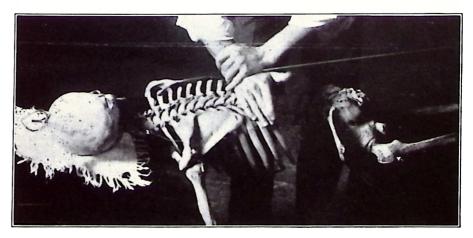


Fig. 138.

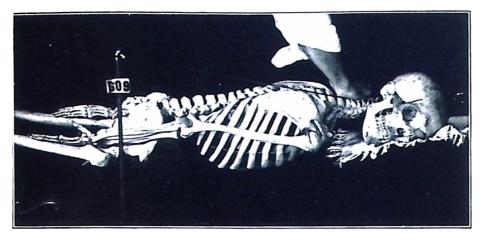


Fig. 139.

4. Subluxations—described and illustrated.

The movements that the atlas and axis are based around are peculiar. So much do they vary from the general rule that I prefer to speak of them as in a class by themselves. The third cervical will thus vary from the above in one respect, which will be common to all vertebrae, the superior or inferior subluxation, which, when referred to in preceding chapters, was in combination with some other; in the following it may be distinct and alone.

Of this vertebra and following vertebrae we have no anterior subluxations, but distinctly and briefly only four possible posterior abnormal positions—a posterior, lateral, superior or inferior.



Fig. 140.

In this series of combinations an almost endless chain of possibilities can and does occur. Especially are these conditions met with and proven to exist in torticollis and wry neck, where osteomalacia or mollites ossium has greatly compressed one or both sides to conform to this plan and manner of procedure.

5. Relative positions of adjacent vertebrae.

The relative positions of vertebrae above and below can easily be determined by close study of the foregoing illustrations. The superior vertebrae remain as a fixed point, while the lower one assumes the subluxated positions.

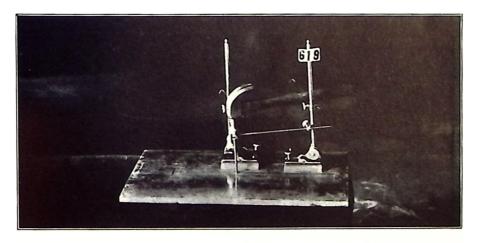


Fig. 141.

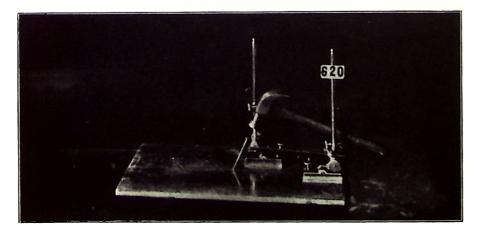


Fig. 142.

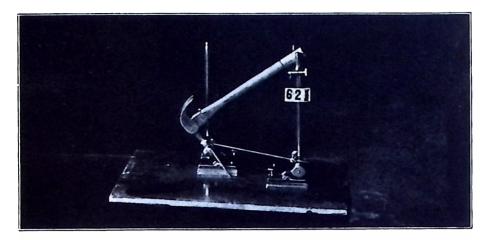


Fig. 143.



Fig. 144.



Fig. 145.



Fig. 146.



Fig. 147.

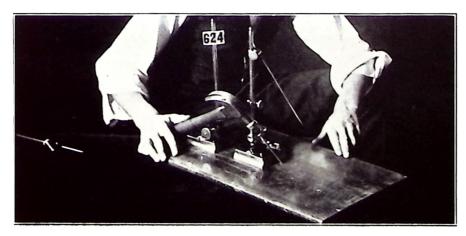


Fig. 148.

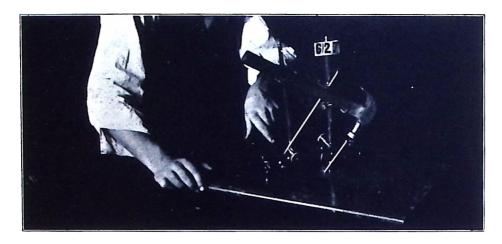


Fig. 149.



Fig. 150.

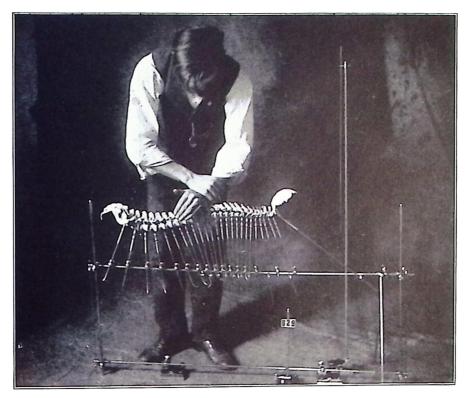


Fig. 151.

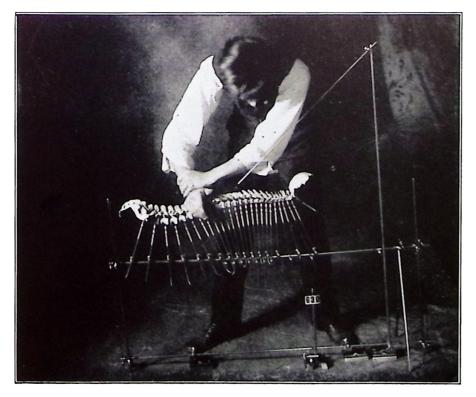


Fig. 152.



Fig. 153.



Fig. 154.



Fig. 155.



Fig. 156.

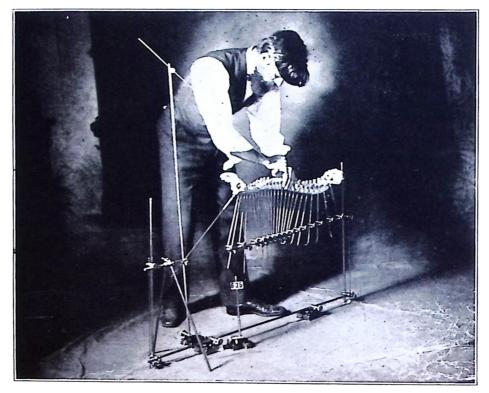


Fig. 157.



Fig. 158.

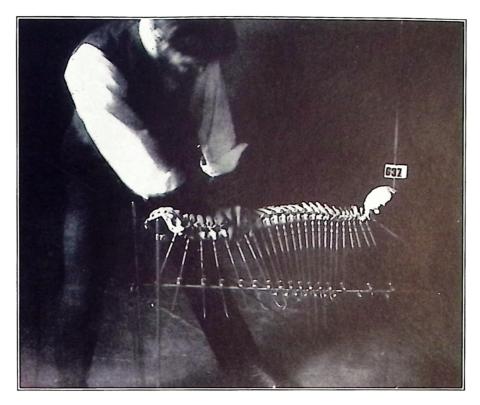


Fig. 159.

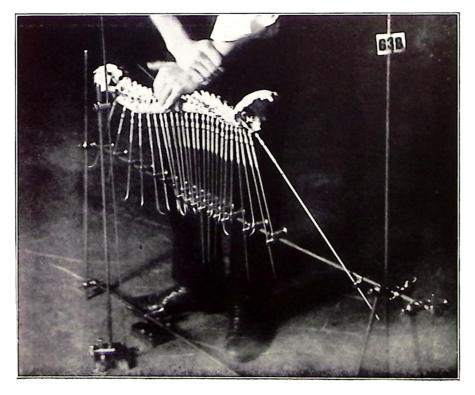


Fig. 160.



Fig. 161.



Fig. 162.



Fig. 163.



Fig. 164.



Fig. 165.



Fig. 166.



Fig. 167.



Fig. 168.

- Fig. 136. Exemplifying Pt. H. further, by pointer indicating hammer head. Notice proper position of hands.
- Fig. 137. Demonstrates Pt. H. with *right* hand as the nail hand and left hand as the hammer hand when on right side of patient.
- Fig. 138. Same as Fig. 135, with the left hand as the nail hand and right hand as the hammer hand when on left side of patient.
- Fig. 139. The only place that this rule varies is in the cervical when the face is from you. Then the right hand is the nail hand on the left side.
- Fig. 140. The *left* hand is the nail hand on the right side in cervical adjustments.
- Fig. 141. Showing hammer and nail adjusting anterior.
- Fig. 142. Showing hammer and nail adjusting superior and anterior.
- Fig. 143. Showing hammer and nail adjusting inferior and anterior.
- Fig. 144. Showing hammer and nail adjusting to the left anterior.
- Fig. 145. Showing hammer and nail adjusting to the right and anterior.
- Fig. 146. Showing hammer and nail adjusting left superior and anterior.
- Fig. 147. Showing hammer and nail adjusting left inferior and anterior.
- Fig. 148. Showing hammer and nail adjusting right superior and anterior.
- Fig. 149. Showing hammer and nail adjusting right inferior and anterior.
- Fig. 150. Showing 3 nails' points. 1 for T. M., 2 for dorsal, lumbar and sacrum, 3 for cervical bench work.
- Fig. 151. Body in position and hands properly placed ready to adjust anterior.
- Fig. 152. Body in position and hands properly placed ready to adjust inferior.
- Fig. 153. Body in position and hands properly placed ready to adjust *superior*.

- Fig. 154. Body in position and hands properly placed ready to adjust *right*.
- Fig. 155. Body in position and hands properly placed ready to adjust *left*.
- Fig. 156. Body in position and hands properly placed ready to adjust left superior.
- Fig. 157. Body in position and hands properly placed ready to adjust *left inferior*.
- Fig. 158. Body in position and hands properly placed ready to adjust right superior.
- Fig. 159. Body in position and hands properly placed ready to adjust right inferior.
- Fig. 160. Body in position and hand properly placed ready to adjust anterior, drawing the vertebra to the side upon which you stand.
- Fig. 161. Body in position and hands properly placed ready to adjust superior, drawing the vertebra to the side upon which you stand.
- Fig. 162. Body in position and hands properly placed ready to adjust inferior, drawing the vertebra to the side upon which you stand.
- Fig. 163. Body in position and hands properly placed ready to adjust left, drawing the vertebra to the side upon which you stand.
- Fig. 164. Body in position and hands properly placed ready to adjust right, drawing the vertebra to the side upon which you stand.
- Fig. 165. Body in position and hands properly placed ready to adjust left superior, drawing the vertebra to the side upon which you stand.
- Fig. 166. Body in position and hands properly placed ready to adjust left inferior, drawing the vertebra to the side upon which you stand.
- Fig. 167. Body in position and hands properly placed ready to adjust right superior, drawing the vertebra to the side upon which you stand.
- Fig. 168. Body in position and hands properly placed ready to adjust right inferior, drawing the vertebra to the side upon which you stand.

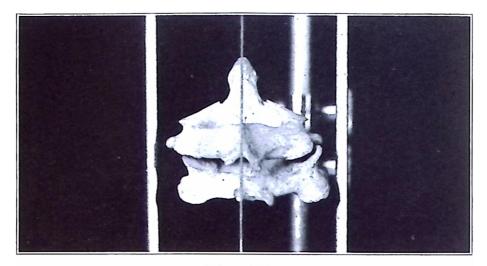


Fig. 169.

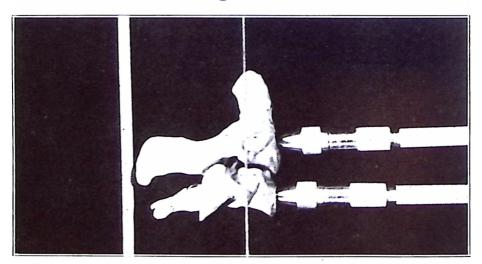


Fig. 170.

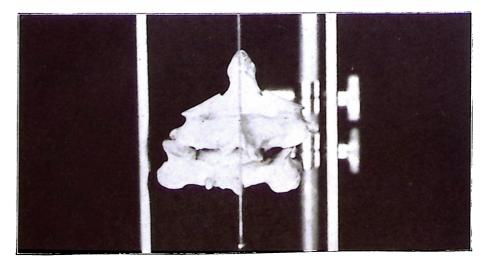


Fig. 171.

6. Where nerves are impinged.

Fig. 169. There would be no pressure, as all foramina are normal in size and shape.

Fig. 170. Right lateral view of axis and third cervical showing depression of spinous processes with plumb bar.

This proves the size to be all that a Chiropractor could wish.

Fig. 171. In this condition the pressures would be upon one or both of the nerves issuing from the left side.

Fig. 172. This would be the reverse of Fig. 168. We must bear in mind that while this is the usual condition, it is susceptible to being often questioned because cases vary in this respect in formation of their bones, etc., that makes any rule inapplicable to all cases, but 12 years at this work has proven where the greatest average of pressures exist with certain subluxations.

Fig. 173. The pressure would be upon the nerves issuing from both sides of the superior surface. The raising of the posterior or of the inferior vertebra is what crowds the space and brings the two halves of the intervertebral foramina together into a smaller opening.

Fig. 174. The opposite of Fig. 173 would exist here.

Fig. 175. In this specimen we have a combination of Figs. 171 and 173, which would create pressure upon that side and superior portion. We might find pressures upon both sides, but the left will be greater.

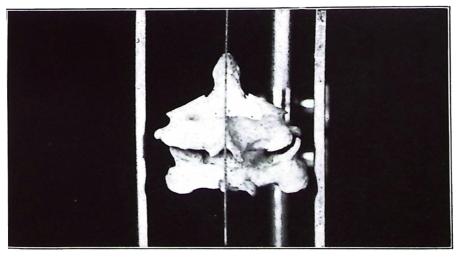


Fig. 172.

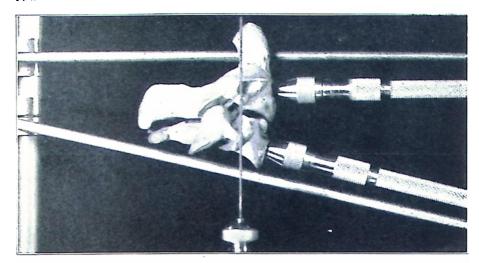


Fig. 173.

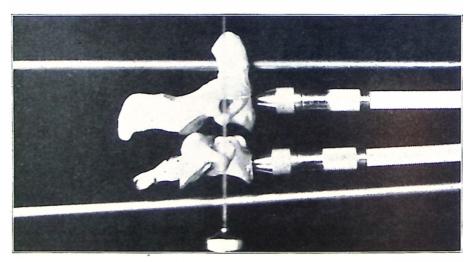


Fig. 174.

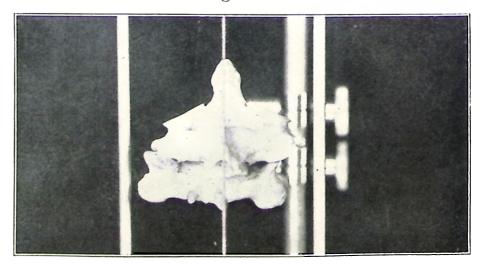


Fig. 175.

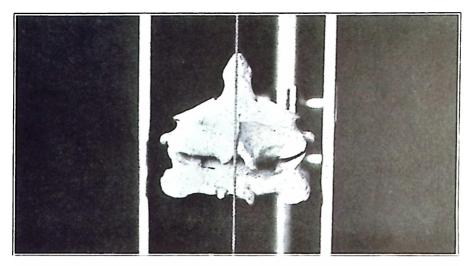


Fig. 176.

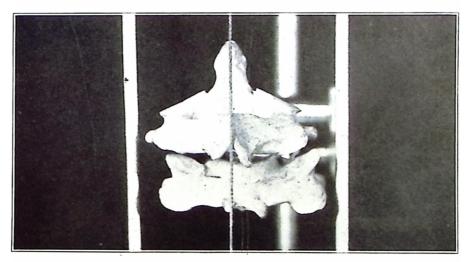


Fig. 177.

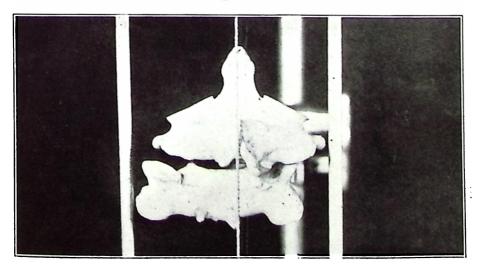


Fig. 178.

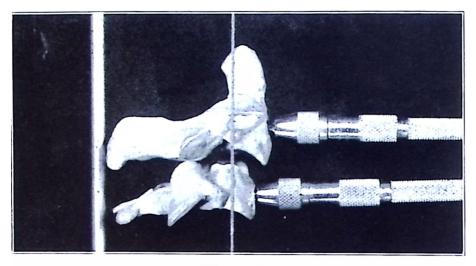


Fig. 179.

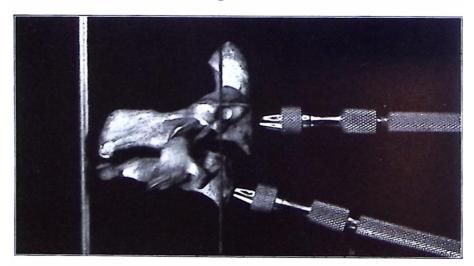


Fig. 180.

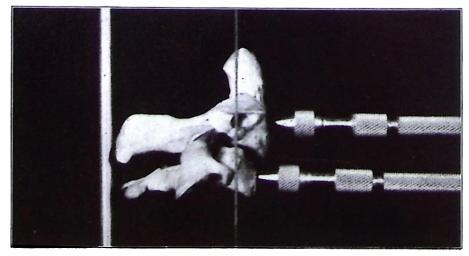


Fig. 181.

- Left subluxation of 3d cervical. Fig. 171.
- Fig. 172. Right subluxation of 3d cervical.
- Fig. 173. Superior subluxation of 3d cervical.
- Fig. 174. Inferior subluxation of 3d cervical.
- Fig. 175. Left superior subluxation.
- Fig. 176. Right inferior subluxation of 3d cervical.
- Fig. 177. Left inferior subluxation of 3d cervical.
- Fig. 178. Right superior subluxation of 3d cervical. Fig. 179. Posterior subluxation of 3d cervical.
- Fig. 180. Posterior superior subluxation of cervical.
- Fig. 181. Posterior inferior subluxation of 3d cervical.

Fig. 176. Here we have a combination of Figs. 172 and 174 on inferior of right side.

Fig. 177. The pressure in this subluxation would be on left inferior of 3d cervical.

Fig. 178. Pressure would exist in foramina on right superior of 3d cervical.

Fig. 179. In a "posterior subluxation" pressure may be upon any one, two, three or four of the foramina that surround the subluxated vertebra. A posterior is hardly ever found without a combination, therefore the above rarely exists.

Fig. 180. In this instance encroachment would be upon the superior foramina, pressure being upon the nerves having their exit here.

Fig. 181. This would be the opposite to Fig. 180. 7. How and what makes pressures.

In the illustrations just given and the "pressures" spoken of, we wish to emphatically state that it is the permanent crushing or squeezing force of the two composite movable portions of the vertebrae, which, by their coming together, make this opening acutely or permanently smaller, thereby impinging the nerves that pass thru that exit, making lack of functions the constant feature.

Functions and organs involved—Locations of.

The tissues mostly involved by the ramifications from this exit are the fleshy portion of the neck. The teeth, jaw, nose, cheeks, etc., will receive their fibres from this area. In many instances fibres will be found to extend to the upper shoulder and possibly into the head. On rare occasions the nerve conveying impressions of sight to the mind and known to Chiropractors as "the optic nerve" may be impinged between 3d and 4th cervical.

Adjustments necessary to correct each.

Figs. 169 and 170. According to palpation are normal.

Fig. 171. Left subluxation would need the adjustment directly to the right as the patient lies with the head upon right side; the movement would be a 45-degree angle of anterior and to the right.

Fig. 172. This subluxation is the reverse of Fig. 171, therefore would be given in an antipodal manner.

Fig. 173. In adjusting the 3d cervical in this position the force would be given on the spinous process to the inferior.

Fig. 174. This subluxation is in common with the one above, only its opposite; therefore adjustment must vary accordingly.

Fig. 175. In this condition we have a combination abnormal position to the left and superior. The movement necessary to correct this is to the right inferior.

Fig. 177. In this we have the opposite of Fig. 176. Fig. 176 should be half way where Fig. 176 is now or vice versa.

Fig. 178. This is a simple subluxation and must be corrected according to the anterior.

Fig. 180. The force is to inferior and anterior.

Fig. 181. The reverse, or superior and anterior.

10. How to give adjustments correctly.

With the head lying upon either side it is a difficult matter to always prominently feel the spinous process of the 3d cervical. In watching the position of the head, even when the patient is prone, drop the head forward as far as it is reasonable, without inconvenience or suffocation to the patient. This will, in the majority of cases, assist in bringing to the surface this process. With the head dropped to one or the other shoulder, while prone, adjust it according to your analysis, being careful not

to allow the head to be jerked forward, in which instance you would undoubtedly do more damage and create injury.

11. What means and portions thereof to use.

The same portions of the hand applies equally as well to the 3d cervical as those we have already thoroly described under Axis.

12. What diseases to adjust the third cervical for.

Many types of diseases of the head, neck and shoulder regions are found from subluxations of the 4th cervical, but this may vary in a small proportion of these cases, especially so when the 4th cervical inferior nerves emit from the superior of the vertebra and the subluxation be of the 3d cervical, producing the pressures between the inferior notches of 3d and superior of 4th. "Neuralgia" of the face, teeth, jaws, gums, etc.; dull headaches, full, heavy feelings in the head, colds of the head, catarrh of the nose and head, flushing or blushing face, cancers, polypi or tumors of the nose, cheeks or lower jaw; serodeama of the glandular tissues of the neck, etc.

CHAPTER XIII.

FOURTH CERVICAL

- 1. Vertebra and its title—M. C. P.
- 2. Superficial palpations and land marks.

The bifurcations of processes in the cervical increases from above downward until the 4th is reached. From there downward, it decreases. This would tend to make the 4th more prominent. Fractures are quite common at this location. Owing to its being lower, its spinous process longer at the prongs and more divided,

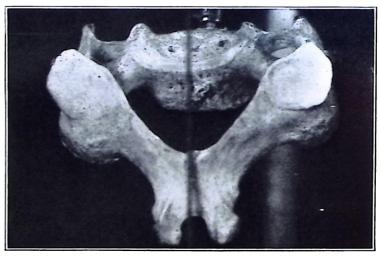


Fig. 182.

it can be readily and freely palpated, especially when the head is dropped forward upon the chest. The nearest land mark is the Axis spinous process. By counting from this inferiorly we are always certain of the exact number. Beginning at the 7th and working superiorly is very questionable in exactness and not to be tolerated with your clinical patients.

3. Normal position and articulations.

Its normal position should be in connection with the articulations of the superior and inferior vertebrae. It



Fig. 183.



Fig. 184.

Fig. 183. Showing three lines to represent the positions of where spinous processes are beneath, with fingers on median line.

Fig. 184. Head flexed forward. Right lateroposterior position. Three fingers, one on each spinous process. Normal positions.

has the same number of articular surfaces as contiguous vertebrae. The spinous process and the centrum should be based upon certain median lines, viz.: the horizontal, laterally perpendicular and the anteri-posterior.

4. Subluxations—described and illustrated.

Subluxations of the 4th cervical are in common, as regards its characteristics, with those of the 3d. The same kind, position and abnormality exist here as there.

The proportion of subluxation of this vertebra is much greater in degree and they occur oftener than in any other cervical excepting the atlas.

Remember, the neck is, as it were, a tube. The majority of the connections are with the expansions at each end, viz.: the superior with the skull, the lower firmly implanted and braced by the shoulders.

It is true, there are strong attachments between skull and shoulder, but proportionately the intermediate spaces may have. This fact, in connection with the knowledge that the center of rotation or mobility of the neck is at the 4th cervical and that when the neck turns itself the 4th is the central point of the lower, holding fast, and the upper turning, we can account for the large majority of subluxations, as enumerated above. It would be superfluous to again illustrate what has once before been gone over, for the illustrations of subluxations of this vertebra refer to 3d cervical, bearing in mind the above variations from the preceding illustrations.

5. Relative positions of adjacent vertebrue.

As already stated, the relative positions would be greater and farther apart in subluxations of this vertebra than in any other cervical.

6. Where nerves are impinged.

In this instance, as in preceding, the pressure takes place as nerves are passing thru the foramina, by the occlusion of its size and shape. This modifies the opening by decreasing its caliber. The 4th cervical is adjusted very frequently and when subluxated the pressures are usually located upon the inferior of this vertebra. If the greatest mobility of the cervical centralizes around this vertebra, the most precise spot would be on its inferior surface.

7. How and what makes pressure.

In such conditions as we have previously portrayed, the pressure is invariably of a hard upon a soft substance. The intervertebral foramen is a movable opening and is subject to being made larger or smaller. The nerves, veins and arteries are the only substances that pass in exit or adit.

Nerve fibres are continuous from brain cell to tissue cell, or vice versa; have no anastomoses, therefore pressure upon them makes direct, partial or total stoppage of mental impulses. The veins or arteries have most ample and complete anastomoses, even to the capillary circulation; pressure upon these as they pass in or out thru these channels would not interfere with the circulation, as the blood stopped would have but 1-500 of an inch to back up to find another channel for its passage. The Chiropractor has nothing to consider as being damaging if blood capillaries should be impinged. It would immediately transfer to some other point and leave the tissues as readily as before the subluxation.

8. Functions and organs involved—Location of.

The functions involved are characteristic of those found thruout the system. There being seven primary, they may be mixed into endless combinations. The location of the latter is confined to the head, neck and upper shoulders. Nerve tracing has, on rare occasions, gone lower in the upper chest or superior back region, these functions being usually superficial, altho many are deeply imbedded.

9. Adjustments necessary to correct each.

The frequency of subluxation of the 4th cervical would lead us to palpate this following the atlas, if the latter was normal. The same kinds of subluxations would necessitate the adjustments as enumerated under

3d cervical. The spinous process, being more prominent, makes it easier to adjust.

It will be noticed that the coat is removed in all views shown in this volume. We do not wish to convey the idea that palpation or the giving of adjustments is work, but rather to give more freedom and less bothering with cuffs, etc. This art is easily accomplished, therefore this suggestion, to correct what might have otherwise created a wrong impression. Ten adjustments in an afternoon is considered a nice afternoon's diversion. The record stands when the author of this volume adjusted over twenty daily for eight consecutive weeks.

10. How to give adjustments correctly.

With the head upon the side and slightly dropped toward the chest, the fourth spinous process stands in view prominently. The adjustment should be directed to a 45-degree slant, inasmuch as it is at the center of the quarter-circle curve previously spoken of. The greater movability of this joint, as a rule, makes it easier to adjust.

11. What means and portions thereof to use.

The same portions of the hands are used here as are spoken of in a previous chapter and is general to all cervical.

12. What diseases to adjust the fourth cervical for.

Many general diseases of the superior region are adjusted for at this vertebra. We have previously enumerated the reasons for the frequency of subluxations at this point. Headaches of the dull aching quality and usually those confined to the center third of the head from anterior to posterior, toothache in any portion, nose-bleed or nasal hemorrhages upon either side, wry neck, torticollis, osteomalacia of cervical vertebrae in the majority of cases have their start by subluxations at this point, contracted muscles of either or both sides, front or rear. Strabismus is rarely, but occasionally found at this location, but must be determined by nerve tracing.

All optic nerve affections, those where the functions of sight, including the sense fibres, are involved by nerves passing outward between 4 and 5 as a general rule. Now and then they proceed from above the 4th vertebra.

Catarrh of the head, including that of the nasal chambers and Eustachian tubes, have their common origin by pressures upon nerves passing between these vertebrae.

Serous circulation, locally confined to the neck, head and upper shoulder, also receives its mental impulses thru nerves emitting at these points.

Cancers or tumors of the eyes, lips, either cheek or forehead.

Lupus of the nose, internal or external, would have its primary abnormal chemical functions interfered with by a mechanical subluxation at this point.

Now and then, as tracings must determine, arm affections of various characters and degrees will develop, due to subluxations and consequent pressures on nerves inferior to 4th.

$\begin{array}{c} CHAPTER~XIV.\\ \\ \text{FIFTH CERVICAL.} \end{array}$

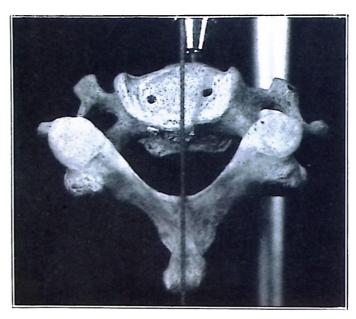


Fig. 195.

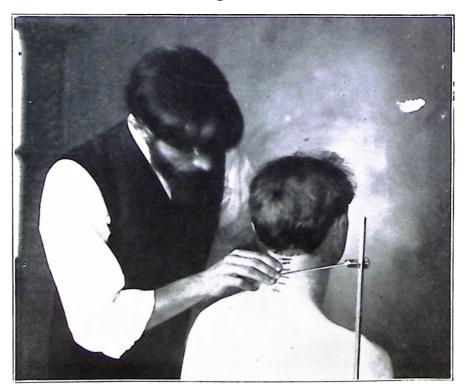


Fig. 186.

- 1. Vertebra and its title—M. C. P.
- 2. Superficial palpation and land marks.

Subluxations of this vertebra are not as common, nor are fractures, as the one preceding, altho they occur oftener than the average person is aware, and more often than the ones below it.

Fig. 186. Showing four lines, with 1st, 2d and 3d fingers on lines underneath, which are the spinous processes of the 4th, 5th and 6th cervical vertebrae.

In passing downward from 4th to 7th, each succeeding spinous process becomes larger and more prominent; therefore, the 5th is in every respect palpated with less exertion and is often observable with the eye when the neck is anteriorly flexed. The landmarks are similar to those of the preceding. Count downward from the 2d or Axis spinous process, thus determining its exact position.

3. Normal position and articulations.

Its normal position may always be determined by palpating carefully, and should necessity arise you can begin to feel the transverse processes at about this area, it being almost impossible to exactly palpate the transverse of the cervical superior to this (unless the person be quite emaciated), with the exception of the Atlas. By comparing the transverses with the spinous and then that position in relation with the median line, you will have no difficulty in determining its exact position. This vertebra has the number and same locations of articulating surfaces and articulations that are common to the majority of cervical vertebrae.

4. Subluxations—Described and Illustrated.

Subluxations of the 5th are not as common as those of the 4th. The mobility of the column decreases from the 4th downward. If this vertebra is subluxated you will find, in the majority of cases, and determined by palpation, for tender nerves on either side, that the pressures are upon the superior surface, as they emit thru those intervertebral foramina. The subluxations are the same as those of the 3d cervical with the exception that they proportionately increase in severity from axis to 4th, and would not be so pronounced from that downward to 1st dorsal. According to this, those of the 5th would not be, on the average, as bad as those of the 4th.

5. Relative positions of adjacent vertebrae.

In the larger proportion of cases the superior vertebrae will be found to be more or less away from normal position while the inferior will be set and quite firm upon their articulations; therefore the heads that are held to one side or the other can be analyzed usually with subluxations greater, in the more movable parts, than in those of the lower where they are held firmly upon their bases.

6. Where nerves are impinged.

Nerves can only be impinged in those parts of a cervical vertebra where there are and can be pressures upon nerves by bone. The study of a cervical vertebra usually shows that outside of the foramina, such as impossible unless there be direct fracture impinging some fibres—a condition which we could not avoid nor correct in the larger percentage of cases on account of their secreted position.

Fig. 187. Left subluxation. Posterior view of 5th cervical, showing pressure on left superior and left inferior foramina.

Fig. 188. Right subluxation of 5th cervical. Posterior view, showing pressure on right superior and right inferior.

Fig. 189. Superior subluxation of 5th cervical, showing pressure on right superior and left superior.

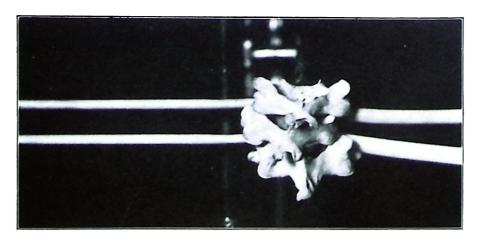


Fig. 187.

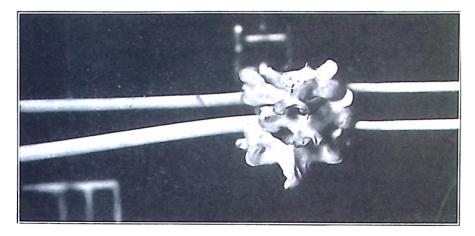


Fig. 188.

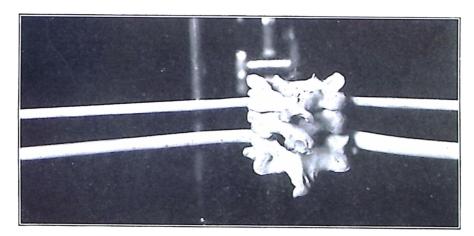


Fig. 189.

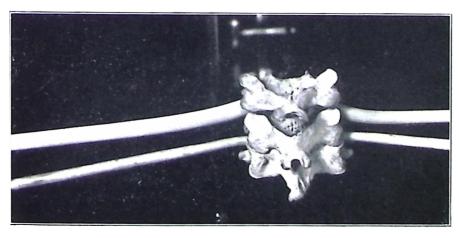


Fig. 190.

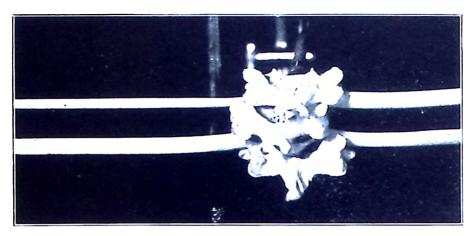


Fig. 191.

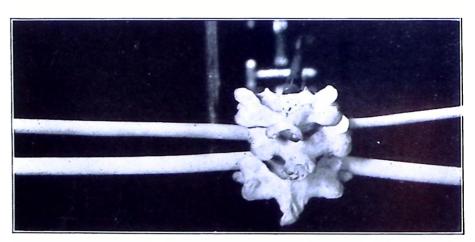


Fig. 192.

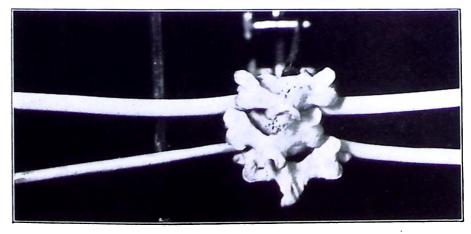


Fig. 193.

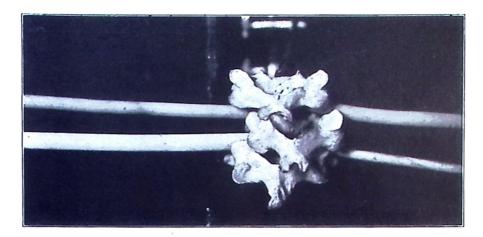


Fig. 194.

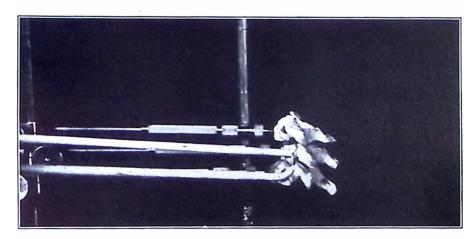


Fig. 195.

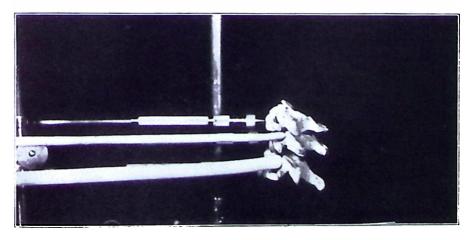


Fig. 196.

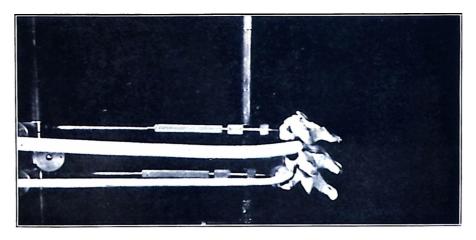


Fig. 197.

Fig. 190. *Inferior* subluxation of 5th cervical, showing pressure on left and right inferior.

Fig. 191. Left superior subluxation of 5th cervical, posterior view. Showing pressure on left superior.

Fig. 192. Left inferior subluxation of 5th cervical, posterior view. Showing pressure on left inferior.

Fig. 193. Right superior subluxation of 5th cervical, posterior view. Showing pressure on right superior.

Fig. 194. Right inferior subluxation of 5th cervical, posterior view. Showing pressure on right inferior.

Fig. 195. Posterior subluxation of 5th cervical, left lateral view. Showing pressure upon left superior and left inferior nerves. Foramina are decreased in size and shape.

Fig. 196. Posterior superior subluxation of 5th cervical, left lateral view. Showing pressure on left superior.

Fig. 197. Posterior inferior subluxation of 5th cervical, left lateral view. Showing pressure on left inferior.

This has been carried under the preceding.

^{7.} How and what makes pressure.

^{8.} Functions and organs involved—Location of.

The functions affected by subluxations of this vertebra seem to be more limited than in the preceding, but such only becomes noticeable because of the fact

that they are more limited in numbers of subluxations. The organs and tissues incorporated are fewer and farther between, and even when abnormalities are manifest, their degree is less severe.

9. Adjustments necessary to correct each.

The adjustments are practically the same as preceding. Remembering that as the body rests in the prone position and head rests upon the forehead, the cervical makes, as it were, on the posterior, a small valley, having its highest points at the axis and 7th, the 4th being the lowest.

As the head is rotated to one or the other side it still leaves this condition in a quarter rotary circle.

What may seem a minor point but must not be left out of consideration in every adjustment, especially in the cervical region, always adjust perpendicular to the plane, and then vary slightly, according to the way you intend to place the vertebra. Nothing is so hard to adjust and to know that you have adjusted correctly as a cervical subluxation. To punch or to drive is not to correctly replace, and unless these items are taken into consideration together you will have missed the most desirable and most important work to be accomplished upon the vertebral column.

10. How to give adjustments correctly.

To correctly give cervical adjustments means that all these points must be accurately and thoroly studied to make each of you a capable adjuster of such conditions. They are the principles upon which this mechanical, superior portion moves.

It cannot be too strongly impressed that each subluxation represents an individual abnormality so far as it is by itself. Years of Chiropractic adjusting proves that I have yet to find where it becomes necessary to adjust more than one vertebra at one time. The physical representative of the cause of each disease is a direct, single subluxation, creating specific pressures upon certain nerve figrallae, which must issue thru an exact foramen. The great value of Chiropractic is its directness in all that it pertains to scientific work. When you begin to get strangle holds on several vertebrae you are not correcting that one which needs it. In your palpation, tracing, adjustments, etc., bear in mind which vertebra you are hunting for, one, not many, and find it. The correction of that one will give all the results you will need, providing you adjust it just right. Subluxations are the results of concussion of forces which center at some one point. It is there that the mischief is created, there is where your work is needed. True, the extent of the blows might be spread, but be that as it may, each vertebra, if subluxated, is an individual unto itself and should be corrected as such. Do not attempt to correct two or three successive vertebrae at one time. Your aim is to set one upon its normal articulations, in opposition with the one above or below. To try and move the two that are affected, for the sake of display, is poor policy, and not practical with conservative Chiropractors, who think more of results than of money.

11. What means and portions thereof to use.

The portions of the hands have been given in detail and must be utilized here as well as anywhere else. Without the consideration of these points of skill, a large proportion of your power is misspent, making it compulsory to use greater diversified strength and less knack than you would do otherwise. The risk of injury in bungling work is great. Concentrated forces, skill and ability will be followed by greater results than attained in any other way.

12. What diseases to adjust the fifth cervical for.

The region involved by such is more limited than that of the 4th, altho now and then we will trace fibres directly between 5th and 6th cervical.

The superior nerves are sometimes involved, but not subject usually to any great degree of damages or interference. The area may be similar to that of the 4th, only in rare instances the zone would be proportionately lower.

CHAPTER XV. SIXTH CERVICAL.

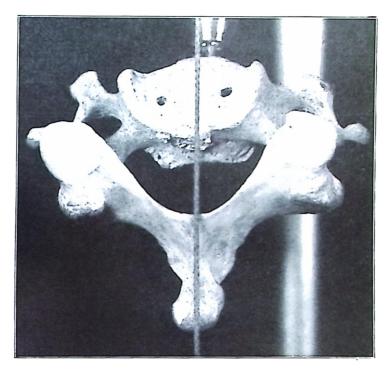


Fig. 198.

- 1. Vertebra and its title—L. C. P. or U. A. P.
- 2. Superficial palpation and landmarks.

Proceeding inferiorly we find the processes getting longer, therefore the 6th cervical is more prominent than all its predecessors, with the exception of the axis spinous process. Oftentimes this process is larger, longer and more prominent than the 7th, which follows, and it is only by the closest palpation that you will be able to determine one from the other. It is seldom that this process is bifurcated, altho that is common to the 5th.

In rotating the head, the 6th will be found slightly movable, altho its motion is quite limited. The spinous process of this vertebra looms into superficial prominence, and, being at the superior portion of the shoulder, is subject to many blows, which, while intended for the head, strike the shoulder region instead. Fractures do occur, altho the vertebral process is stronger and more



Fig. 199. Showing five lines on neck, each of which is over a spinous process. Second, 3d and 4th fingers are over the 5th, 6th and 7th spinous processes, respectively.

firmly fixed than most. Your consultation as regards past accidents ought to determine whether you need beware of such foolers.

3. Normal position and articulations.

Its normal position is determined by palpation and comparison with the spinous processes above and below, altho if there be a fracture of this process it might fool you considerably. Fractures do occur in these regions and usually the patient is aware of the fact. Its articular surfaces and articulations are in points of number and position identical with those of the preceding, with the exception of the approach toward the characteristics of the dorsal.

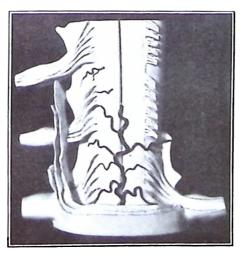
4. Subluxations described and illustrated.

Fractured distal ends of the neurapophyses would fool an expert if he had not the knowledge of palpation of the transverse processes and location of tender nerves. One or the other or both will contradict the first. The subluxation—that is, its present abnormal position—can be determined by approximation of spinous and transverse processes and tender nerves on either side. All three can be abnormal, but if the spinous is abnormal and the other two fail to show peculiarities, you may conclude that this vertebra is normal.

Subluxations of the 6th cervical occur less often than those of the 5th. The kinds, therefore, are similar to those of superior vertebrae, but on the whole not so great nor the consequences as severe as those of the 5th.

- 5. Relative positions of adjacent vertebrae.
 Answered under Point 3 of this chapter.
- 6. Where nerves are impinged.

The majority of pressures upon nerves in consideration of this vertebra is as they pass thru the intervertebral foramina on the *superior* surface. Occasionally nerve tracing will determine the pressure on inferior between 6th and 7th.



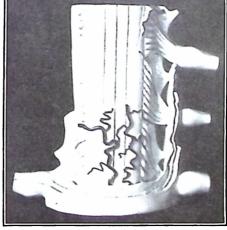


Fig. 200. Enlarged portion of spinal cord. Anterior view. Showing how nerves emit from the cord and pierce the sheaths. Wax model belonging to The P. S. C. Osteological Collection.

Fig. 201. Enlarged portion of spinal cord. Shows all that Fig. 200 does from opposite side.

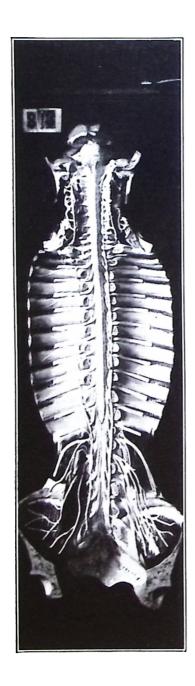


Fig. 202. Enlarged model of spinal cord and torso. Shows where nerves emit from spinal cord. Wax model belonging to *The P. S. C.* Osteological Collection.

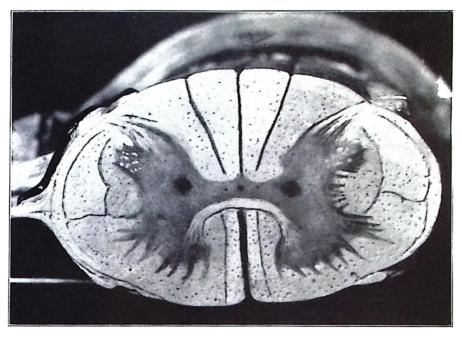


Fig. 203. Enlarged view of sectional end of spinal cord. The superior surface of Figs. 200-201 very much enlarged.

7. How and what makes pressure.

On the degree of subluxation depends the quantity of pressure and the consequential lack or excess of quality of expression at peripheral. The character of the disease being entirely dependent upon the degree of impingement and the combination of functions involved. The pressure is the result of the compaction of solid of osseous-structures around and upon the compressible nerves.

8. Functions and organs involved. Location of.

In a few cases, as investigation leads us to believe, throat difficulties are and can be traced directly to the 6th cervical. Also some types of a dull, languid headache. Aching and contracted muscles of the shoulder and upper pectoral, humeral regions and involved likewise. In brief, we might say that affections of shoulders, throat and head are produced by subluxations in this region, altho not as often as in the previous cervical. The abnormal functions are such as are common to all tissues.

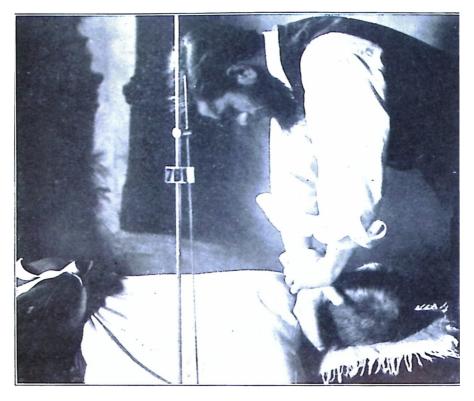


Fig. 204.

In some few instances we have found asthma or hay fever, where highly located in the bronchial tubes to receive fibres from this vertebra. This is not a usual condition.

9. Adjustments necessary to correct each.

The adjustment in each instance depends entirely upon how the vertebra is subluxated. If I find one common fault with students, it is that you do not study the approximation principle closely enough and even when found and analyzed you do not study the proper placing of your hands to give the movement in the right direction. This is a most important feature of Chiropractic adjusting. Too much stress cannot be laid thereon. You reason, perhaps foolishly, that because your teachers observe these conclusions quickly, that you can do likewise, but you overlook the fact that experience makes ease and facility. It makes and gives speed with piece He who has palpated spines for years, doing so with the accurate plan of work as outlined in this book, observes, feels, reasons and makes deductions very

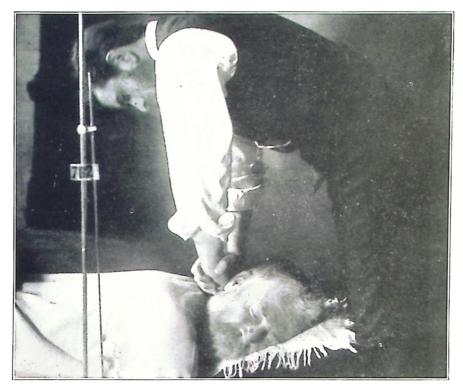


Fig. 205.

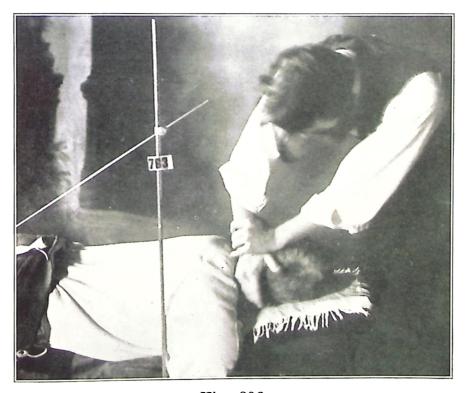


Fig. 206.

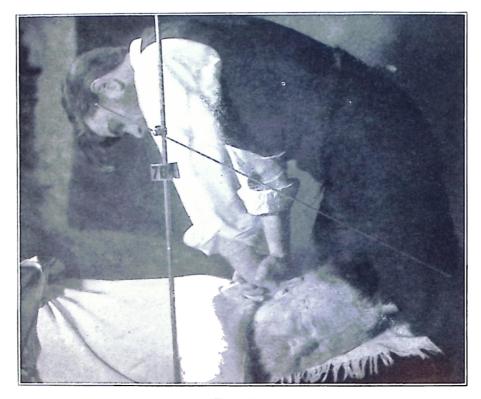


Fig. 207.

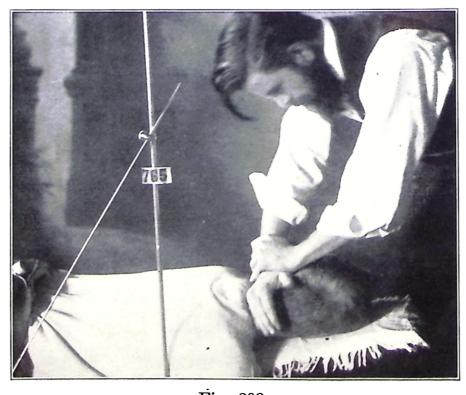


Fig. 208.



Fig. 209.

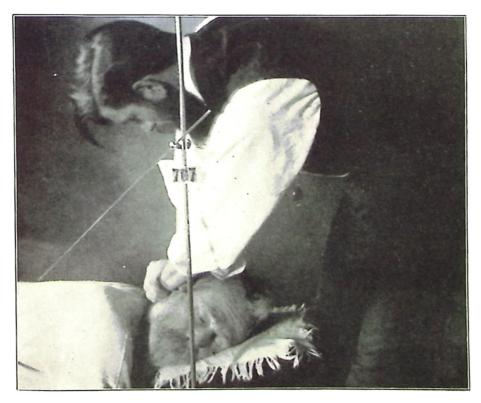


Fig. 210.

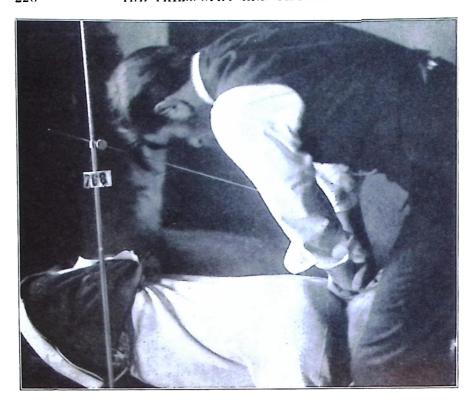


Fig. 211.



Fig. 212.

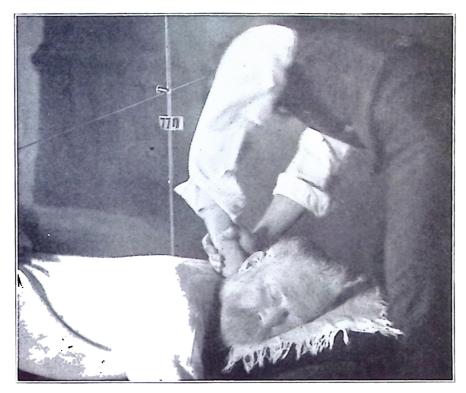


Fig. 213.



Fig. 214.

quickly and accurately. Students, studying principles of adjusting, must not forget that you are only beginning to advance; weigh each thought and movement, position of each hand and of your body; how you will give the force and every one of your essential eleven points must be considered. When adjusting your patients be not in too great a hurry. Time is precious, but results more so. Analyze each subluxation and adjust it accordingly.

10. How to give adjustments correctly.

Fig. 204. Left subluxation of sixth cervical. Adjustment given standing at head.

Fig. 205. Right subluxation of 6th cervical. Adjustment is to left. Standing at head.

Fig. 206. Superior subluxation of 6th cervical Right lateral view. Adjustment is inferior, as indicated by pointer. Standing at head.

Fig. 207. Inferior subluxation of 6th cervical. Right lateral view. Adjustment is superior. Standing at head.

Fig. 208. Left superior subluxation of 6th cervical. Adjustment is right inferior. Adjustment given with adjuster standing at the head.

Fig. 209. Left inferior subluxation of 6th cervical. Adjustment is right superior. Adjustment given with adjuster standing at head.

Fig. 210. Right superior subluxation of 6th cervical. Adjustment is left inferior. Adjuster standing at head.

Fig. 211. Right inferior subluxation of 6th cervical. Adjustment is left superior. Adjuster standing at head.

Fig. 212. Posterior subluxation of 6th cervical. Adjustment is anterior. Adjuster standing at head.

Fig. 213. Posterior subluxation of 6th cervical. Adjustment is anterior inferior. Adjuster is standing at head.

Fig. 214. Posterior inferior subluxation of 6th cervical. Adjustment is anterior superior. Adjuster is standing at head.

11. What means and portions thereof to use.

In addition to the above you cannot be too careful to properly place the hands so as to get the greatest con-

cussion of forces from your hands and arms with the least effort and labor. You must analyze and then focalize your actions.

Study the nail and hammer illustrations and see if you are complying strictly to its fundamentals. If not you should immediately change. Certain parts of the hands are best; those which are used after years of experience. To change is commendable, should it prove advantageous. But less labor is required to hit a nail on its head with the hammer head than on any other place, with the object of getting the most results for the smallest expenditure of labor.

12. What disease to adjust the 6th cervical for.

This question was principally answered under Point 8. Any function of the region mentioned might and could be incorporated under this existing condition of things. To enumerate the diseases would be endless even the 6th cervical has only a limited amount of them.

CHAPTER XVI. SEVENTH CERVICAL.

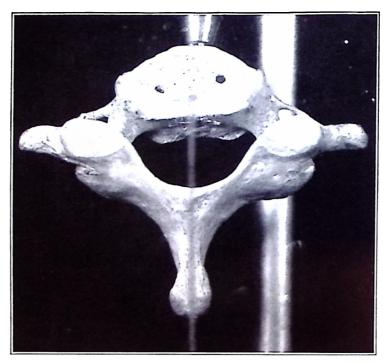


Fig. 215.

1. Vertebra and its title. V.P.

The seventh cervical vertebra is the vertebra prominens, because of the comparatively greater projection of its spinous process, which serves as a distinctive landmark in this region. In rare cases the anterior root of the costo transverse attains a large size, it is then known as a cervical rib. The seventh cervical is one of the three peculiar cervical.

If it be conceived that an individual be placed in the position of a quadruped, or rather that the limbs are separate and perpendicular to the trunk, the nerves emitting from the spine assume the shape of circular bands or zones. The dermatomeres assume the form of circular bands arranged in strata. As regard the upper limbs, they are prolonged along its length in parallel bands, more or less regularly placed lengthwise, but one superior or inferior nerve blends some of its fibres into

the dermatomere above or below so that one nerve or the impulses transmitted thru it does not, alone, entirely control one zone.

This deposition of nerve fibres into zones commences with the atlas and ceases with the coccyx. The higher the vertebra and its corresponding nerves the more elevated is the zone that it usually separates into.

Brain expands cells into fibres which prolong into the spinal canal from the spinal cord, give off branches which emit thru intervertebral foramina, thus connecting the place of exit with a definite, specific zone.

This fact alone is what has proven *The P. S. C.* study of the nervous system and its additional diagnostic feature, the greatest of its kind.

The above basic is proven in clinical work every day, with the exception of the paths that vary from this, which are mapped out and observable under Nerve Tracing. The latter feature of *The P. S. C.* work has also made the paths of distribution and the determination of these zones a feasible proposition.

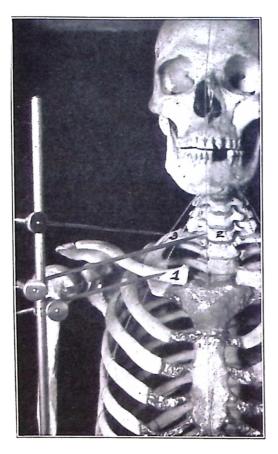
2. Superficial palpation and landmarks.

Placed at the junction of the neck and the upper back regions, its position is especially prominent and easily observed without hard palpation.

Altho this is known as the "vertebra prominens," it is not uncommon to find the 6th cervical or 1st dorsal as large or larger. To be accurate, count downward from the spinous process of the 2d. As has been said, the cervical portrays a hemispherical curve, and the 7th being placed at its base makes it, combined with the similar tho lengthened condition of the dorsal, the most prominent point of the spinal column. Of the spinal column, superior to the sacrum, it is the plainest landmark upon the normal spine.

3. Normal position and articulations.

With the exertion of the serum no other vertebra can boast of having so many important ligaments, aponeuroses, and muscles attached to it and is so firmly intrenched in its position as the 7th. It is lodged by the 1st rib, scapulae and arms, doing their greatest pulling



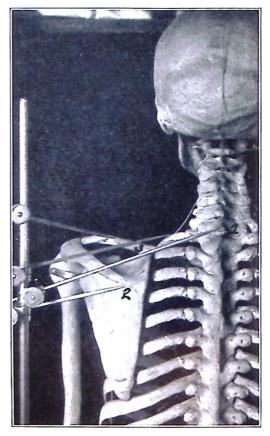


Fig. 216. Enlarged anterior view of first rib, scapula and clavicle to show firm entrenchment of cervical; 3 is 1st rib.

Fig. 217. *Posterior* view of seventh cervical. Brings out similar ideas as Fig. 217 only posterior.

from side to side from the center of its supports. Its normal position is thus very easily observed and consequently needs but little of our attention. It is seldom that diseases or their tender nerves are traced to this vertebra. It would be difficult to give an estimate of how rare such are, because *The P. S. C.* has only had an extremely limited number of cases in which the 7th was involved.

So firmly is this rooted that in the majority of cases the processes will fracture and leave the centrum in original place. 4. Subluxations, described and illustrated.

Subluxations of the 7th cervical are so rare that detailed consideration will not be given. If such is found and you are certain, without a question of doubt, that it is creating damage, compare its position with what has gone before, for they will be handled similarly.

The 7th cervical is the 7th vertenere and 7th zone. Under 4 we have described the almost impossibility of subluxations of the 7th cervical, therefore we would not have a dermamere affected except in rare instances. The zone which receives fibres from this district are rarely affected.

The same general observations as we have stated for the 7th dermamere also are equally applicable for the myomere, viscemere, and sensomare of this region.

The 7th cervical is the 7th ossemere and issues fibres on its superior surface for the functions of the 6th cervical. Subluxations of the 6th cervical will, when adjusted, fix any osseous disorders of that vertebra. So far in the study of ossemeres of the cervical we have found it was one ossemere for another. Approaching the dorsal means that this arrangement slightly varies, due to the crossing of fibres from one vertebra to another.

5. Relative position of adjacent vertebrae.

The relative positions would be spoken of under 6th cervical, for it is that which usually is abnormal in relation to the 7th. The dorsal will give the inferior comparisons. The 7th is a fixed point or base for consideration of the cervical above and dorsal vertebrae below.

6. Where nerves are impinged.

If time be given to answering this we must consider it from a subluxation of the 6th cervical, impinging from its inferior abnormal position, or if there appears to be an inferior subluxation of 7th. Compare with Sup of 1st Dorsal and you will arrive at the deductions which show the latter the physical representative of the cause, not the former.

7. How and what makes pressure.

In this instance we have little to comment upon, inasmuch as subluxations are rare, as has been stated previously.

- 8. Functions and organs involved. Location of.
- 9. Adjustments necessary to correct each.

10. How to give adjustments correctly.

If some violent accident happened and should fracture some of the strong supports for this vertebra and subluxation exists as a consequence, just remember that it needs adjusting and correct it by applying the same principles here as elsewhere. It being at the crest of the spinal ridge, your adjustments would be directed anterior and varied from that according to the direction to correct.

- 11. What means, and portions thereof, to use. This has been thoroly demonstrated.
- 12. What diseases to adjust the seventh cervical for.

Unless otherwise convinced, by unalterable evidence, this would be the last vertebra in the spinal column to be subluxated.

CHAPTER XVII.

GENERAL PRINCIPLES.

Thruout the preceding and following pages, at appropriate places, we have interjected various principles of the art of palpation and adjustments, how to do each in the best manner, eradicating the faults and adding the easiest, best and safest manner of procedure. We have endeavored to show wrong and right ways for comparisons. Hardly a new way can be conceived but what has been tried, found wanting and cast off, or decided to be valuable and become an addition. The cullings of those are presented here.

As a part of The Palmer School of Correspondence course is a lengthy lecture (illustrated with 190 views) of the many "old moves" that have been tried for years to prove the developmental and experimental stages of this art. We commend that lecture as a part of this book's endeavors.

The following series of views and their descriptions are each described. Some are ideas upon cervical; others, dorsal and lumbar. You can apply them as they fit into your work from time to time.





Fig. 218.

Fig. 219.





Fig. 220.

Fig. 221.





Fig. 222.

Fig. 223.

Fig. 218. The left hand is the nail hand on the right side.

Fig. 219. With the face of the patient, prone, towards you, standing on that side the left hand is the wrong hand to palpate with. This view shows an error.

Fig. 220. With the face of the patient, prone, towards you, standing on that side, the right hand is the wrong hand to use for the hammer hand. This view shows an error. Don't duplicate.

Fig. 221. With the adjuster standing on the left side of patient and the face from you, the right hand is the wrong hand to palpate with. Avoid this.

Fig. 222. With the adjuster standing on the right side of patient and the face from you, the left hand is the wrong hand to adjust with as the nail hand. To simplify this set of rules just remember that the fingers never point toward the face regardless of what position the face or head is in. The fingers are always away from the face. Constantly keeping this in mind will clear much.

Fig. 223. In adjusting the atlas often the hair of the patient, male or female, is allowed to get under the nail hand when in position and when the nail hand gives the movement this pulls the hair and will, by its own adaptation, make the patient brace by contraction of muscles in the neck; for this reason we show two views, one with the hair under the nail hand, and the other with it brushed back. Hair under nail hand with hands in position.

Fig. 224. In this illustration we show the hammer hand holding the hair back at time we are placing the nail hand.

Fig. 225. We show the nail hand in position with the hair up and out of the way. The hair is now all above the nail hand.

Fig. 226. Shows the skin drawn to the right.

Fig. 227. When index finger is removed the skin is allowed to resume its natural position.

Fig. 228. The tension upon the skin the same on both sides. This rule, if followed, avoids all "slipping" during adjustments, which is more apt to do great harm than if followed without its use.

Fig. 229. Skin drawn to the left.





Fig. 224.

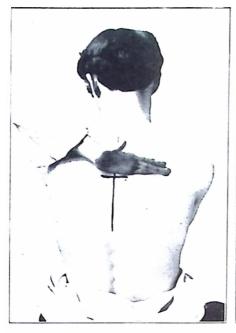
Fig. 225.







Fig. 227.



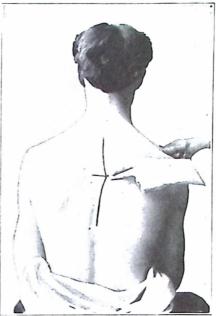


Fig. 228.

Fig. 229.





Fig. 230.

Fig. 231.

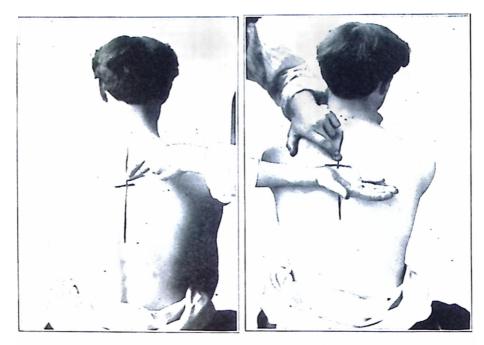
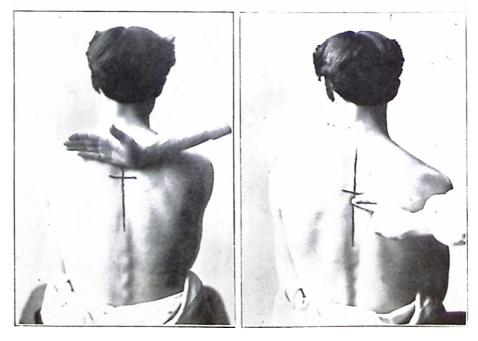


Fig. 232.

Fig. 233.



Γig. 234.

Fig. 235.





Fig. 236.

Fig. 237.







Fig. 239.



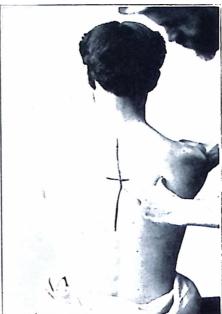


Fig. 240.

Fig. 241.





Fig. 242.

Fig. 243.

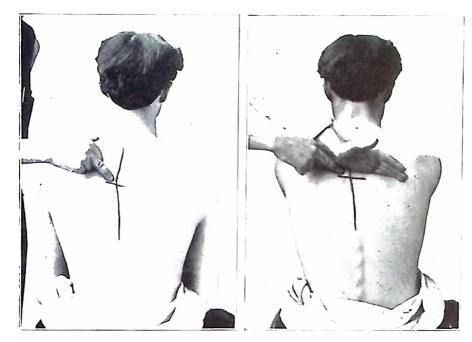


Fig. 244.

Fig. 245.

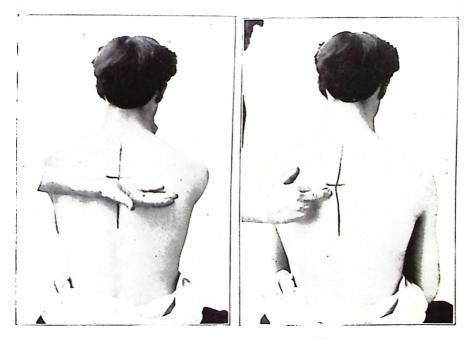


Fig. 246.

Fig. 247.





Fig. 248.

Fig. 249.

Fig. 230. Index finger normal. Addition of nail hand to left.

Fig. 231. Index finger absent. Nail hand in position on median line.

Fig. 232. Index finger superior.

Fig. 233. Index finger superior. Addition of nail hand to superior.

Fig. 234. Index finger absent. Nail hand in position on median line.

Fig. 235. Inferior index finger.

Fig. 236. Inferior index finger. Addition of nail hand.

Fig. 237. Index finger absent. Nail hand in center.

Fig. 238. L. superior index finger.

Fig. 239. L. superior index finger. Addition to nail hand.

Fig. 240. Index finger absent. Nail hand is normal.

Fig. 241. L. inferior index finger.

Fig. 242. L. inferior index finger. Addition of nail.

Fig. 243. Index finger absent. Nail hand in center.

Fig. 244. R. superior index finger.

Fig. 245. R. superior index finger. Addition of nail hand.

Fig. 246. Index finger absent. Nail hand on center.

Fig. 247. R. inferior index finger.

Fig. 248. R. inferior index finger. Addition of nail hand.

Fig. 249. Index finger absent, nail hand on center.

Fig. 250. A wrong position to place the hand when adjusting.

Fig. 251. The hand upon edge to show how the forces should concentrate at one point.

Fig. 252. Correct position of the entire hand and arm.

Fig. 253. Hand should appear as this illustration brings it out. Well arched and everything focusing to that one point. Shows the inside view of the same hand, showing the light as it passes thru and under the arch.

Fig. 254. The detailed position of each hand has much to do as a prominent feature in focusing the forces. With this illustration it shows the thumb well under the palm of the nail hand. This is wrong, it should act as an upright support.

Fig. 255. In this hand we show another wrong place to put the thumb. To many students it seems that they are in the way, and therefore try to put them out of the way. On the reverse, it is a useful member and its upright position should be carefully studied.

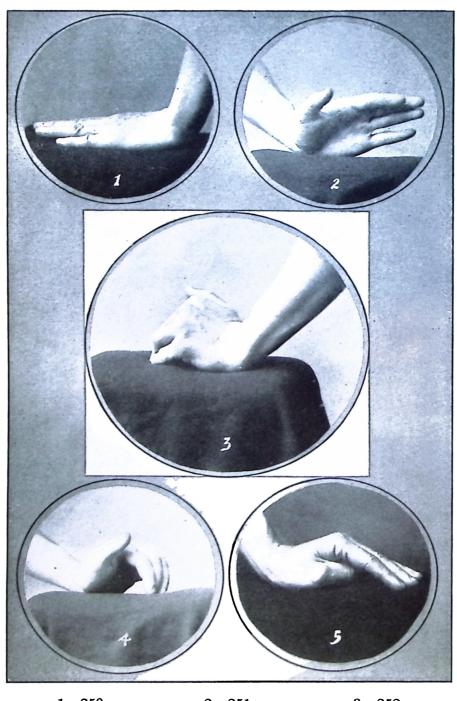
Fig. 256. Another abnormal position to place the nail head on. The hammer head must always rest upon the nail head. This illustration shows a habit that some students will get into. It is wrong and must be avoided. Pay close attention to details and this blunder will save many regrets.

Fig. 257. In this instance we show the thumb of the nail hand, upraised as it should be. It is useful when used rightly and for this reason we call particular attention to its position.

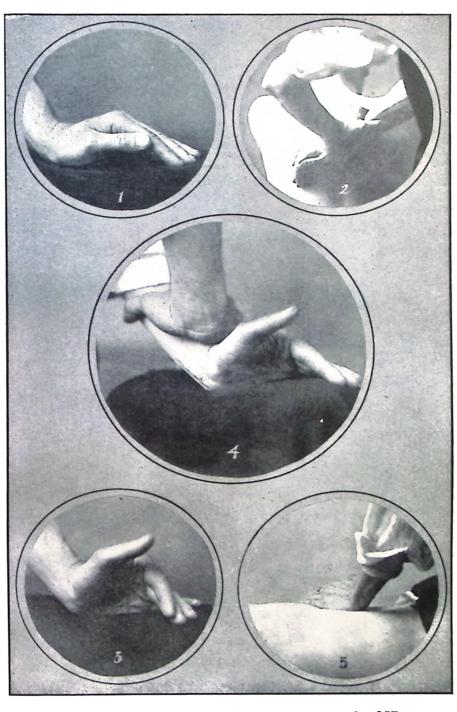
Fig. 258. In this illustration we show the position of the nail hand, and the hammer hand with the thumb well upraised to show its position and point of advantage.

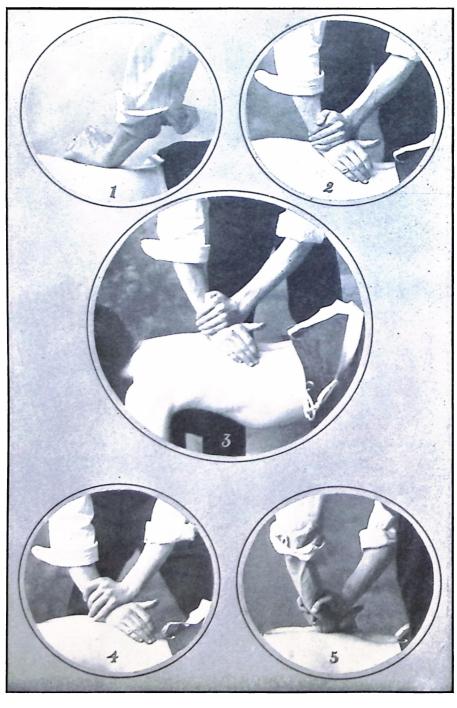
Fig. 259. In this set of views I wish to call particular attention to the right hand, wrong way of the position of the nail hand flattened and arched. This is the wrong way.

Fig. 260. The next view shows the right way.



1-250 3-252 2-251 5-254 4-253





1-260 2-261 3-262 5-264 4--263

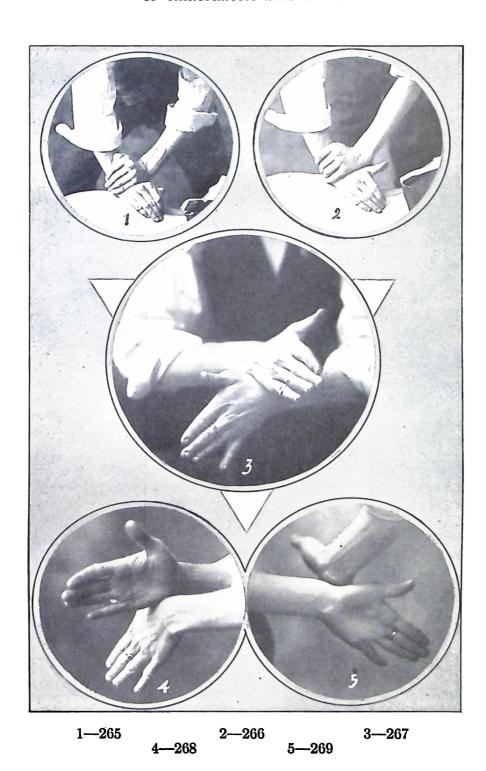


Fig. 261. The wrong place to put the thumb of the hammer hand. Notice the abnormal position carefully.

Fig. 262. Another view showing again another abnormal position of the thumb of the hammer hand.

Fig. 263. Showing the normal place for the thumb of the hammer hand. Anterior view. It clutches the wrist and holds there very tightly during the adjustment.

Fig. 264. Showing the same view just before this, with the exception that it is a posterior view.

Fig. 265. Notice the cramped position of this adjuster. His position would show contracted muscles, consequently work delivered in this fashion would be equivalent to calling for great resistence upon the part of your patient.

Fig. 266. In this view we again return to the normal in general configuration. Notice carefully the general position of hands, the arms, shoulders and the relaxed condition of all.

Fig. 267. The anterior view of the nail and hammer hands together brings out most clearly just where the two go together. Many students get one or the other in front or to the rear of the other. Be very careful of these false positions. This view brings out this detail very clearly.

Fig. 268. The same as above on lateral view. I have tried to show this from all sides to make it clearer in detail. I do not want a single mistake on these features and would show endless views of it if it but clears this idea in their minds.

Fig. 270. In adjusting, many students are not careful to get the hands exactly and rightly placed the first thing. They will allow them to drop down and then wonder why the results keep so far away, and then Chiropractic gets the black eye. Attention to details when adjusting will avoid anything of that character. In this set of views we shall aim to show how the hands do slip and slide over the spine when giving the various adjustments when the hands are not apt and properly placed. The hand has slipped to the superior.

Fig. 269. The same as the two above, with the exception that it is a posterior view. Always be sure that you put your nail head underneath the hammer head, as this view shows.





Fig. 270.

Fig. 271.





Fig. 272.

Fig. 273.







Fig. 276. Fig. 277.

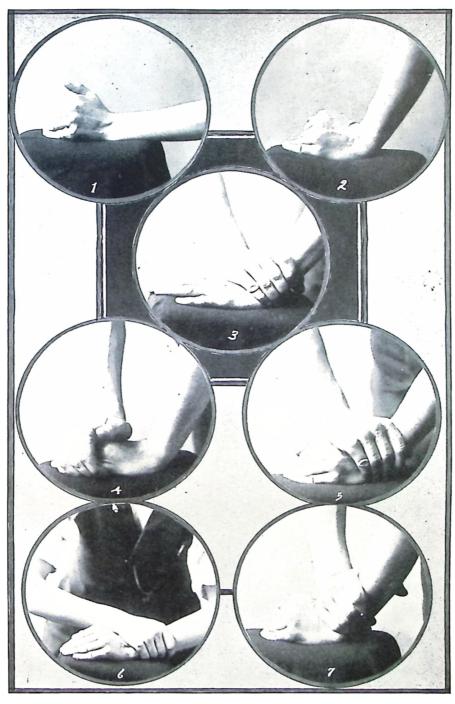




Fig. 285.



Fig. 286.



Fig. 287.



Fig. 288.

Fig. 271. Showing the hand slipping to the inferior. Care should be used.

Fig. 272. Nail hand as well as hammer hand adjusting and slipping to the left.

Fig. 273. Adjusting hands slipping to the right of the median line. It is this careless work which injures as well as bruises the backs. When the adjustment is not given is when you hear the complaints of your patients.

Fig. 274. Slipping to the left and superior.

Fig. 275. Slipping to the left and inferior. I cannot emphasize too strongly the careless fashion that you will soon drop into unless care is constantly being used. You must constantly keep your attention directed to what you are doing.

Fig. 276. Slipping to the right and superior.

Fig. 277. Slipping to the right and inferior.

Fig. 278. Having thus studied the position of the hand, or hands, next consider the arm or arms. Do not let it or them lie down as this illustration shows.

Fig. 279. This is the position that the arms should be in when readily positioned. If giving an adjustment there should be an angle between the hand and the arm.

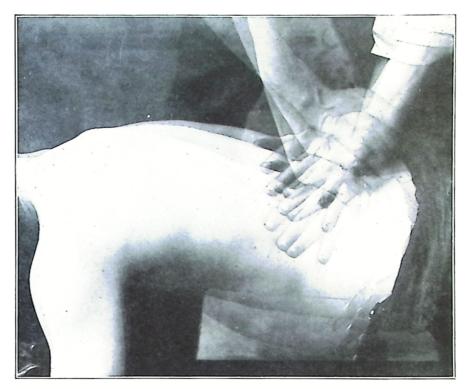


Fig. 289.



Fig. 290.

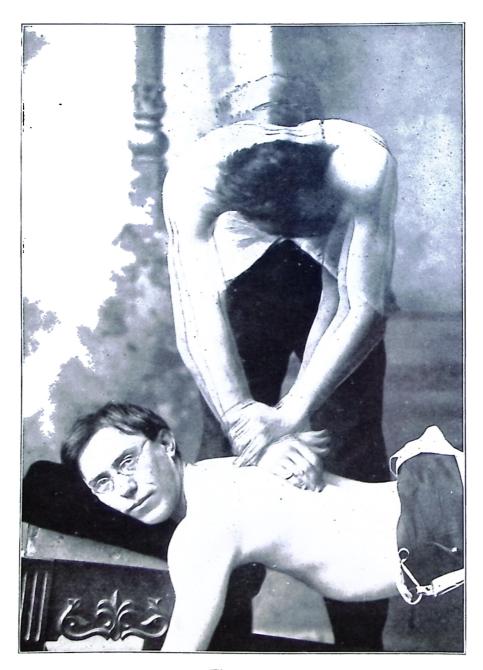


Fig. 291.



Fig. 292.

Fig. 280. In adding the hammer hand to the nail hand do not make the too often common mistake of such as is portrayed here. In this the flat nail hand and the hammer hand is wrongly placed on the nail hand. The point where the hammer hand will be spent is too far away from the direct line of the shaft of the nail hand.

Fig. 281. The same fault could be spoken of here. The movement of the hammer will have been lost upon the nail hand.

Fig. 282. The nail hand in this instance is too flat. The hammer hand is wrongly placed. With this case very poor adjusting would have been given. It would not bring results.

Fig. 283. The position of the nail hand is good. The placing of the hammer hand is not bad, but both arms are almost flat. They should be more perpendicular, as is shown in 640-K.

Fig. 284. The nail hand is properly placed. The hammer hand is properly placed and the arms are brought pright in good position. This is the way all work should be done.

Fig. 285. In this illustration we show a wrong way after having palpated, found your subluxations, you have placed the nail point. In giving the adjustment do not raise the nail point from the body, as this picture shows.

Fig. 286. This illustration shows the hands properly placed with the extent that just before giving the adjustment the nail point is removed from the spine, the object being to give more force. This is sadly a mistake.

Fig. 287. Having determined the proper placing of both hands, serious consideration given to the position of both arms, the next thought is the direction of the movement. This illustration shows the elbows in three different positions. Beginning at the lower one, first drawing the elbows very quickly together. This movement simultaneously given with the illustration in 651 and 658 will bring hammer point and nail point together in such forcible manner that it will correct any vertebral subluxation with ease and aptitude. Notice that when elbows come together the hands remain firmly clasped together. The hammer head of the hammer hand does not leave the nail head of the nail hand.



Fig. 293.



Fig. 294.



Fig. 295.

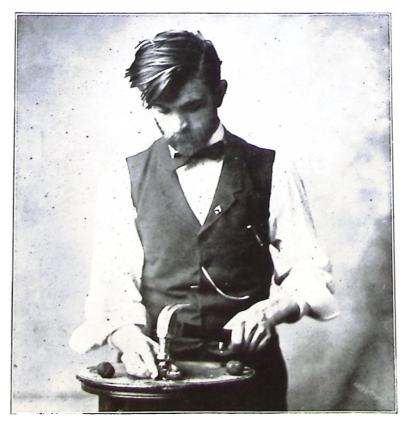


Fig. 296.



Fig. 297.

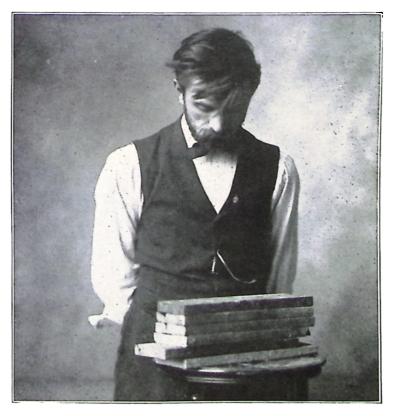


Fig. 298.



Fig. 299.



Fig. 300.



Fig. 301.



Fig. 302.



Fig. 303.



Fig. 304.



Fig. 305.



Fig. 306.



Fig. 307.



Fig. 308.

Fig. 288. This illustration shows three positions of the shoulders starting from above and going downward. This movement is just as quick as the one before this, both working at one time, and the consequence.

Fig. 289. This illustration shows the position of the body on the adjusting table and shows the result of the combined movements that are brought out with movements number 640—L & M. The body quickly moves downward, hence the adjustic touch which the P. S. C. has made famous.

Fig. 290. Shows the recoil. A little study of this view will prove that the body comes back with the lightning rapidity, hence in the first view the hands are on the body at its lowest level. Following the direct movement, the second step shows the hands slightly elevated above the superior surface of the body, the third stage shows the hands well off the body which is raised back to its normal position.

Fig. 291. We have tried in this view to take advantage of every phase of this work. The body of the adjuster is nude so that you can the better see the direction of his arms and shoulders. Notice the three steps from normal arms akimbo to the erect, and at the same time the drop of the shoulders.

Fig. 292. This illustration shows the wrong attitude of the adjuster, where the arms are coming down and the elbows coming together, all of which is correct so far, yet, while this arm movement is going on, the shoulders are going from the patient, where, as in the proper movement, they should be coming towards.

Fig. 293. To further the idea of the quick, metallic, piano touch in adjustments, I call your attention to the illustrations for purposes of comparisons with the cracking of the walnut. It is impossible to crack a nut by pushing the hammer against it as this illustration shows. This is typical above movement.

Fig. 294. The hammer upraised ready to descend upon the nut.

Fig. 295. Triple exposure, hammer upraised, showing three stages of the dropping of the hammer on the walnut.

Fig. 296. The nuts cracked and opened. The hammer in position on the shell. Notice the fingers holding the

nut at the time we are getting ready to and during the striking. This indicated holding the nail correctly. The very fact that the nut was cracked shows that force was very quick but effective.

Fig. 297. Again we want to carry the same fact forward only modifying the materials. We have six blocks. All are in normal position.

Fig. 298. In this illustration the next to the lower block is subluxated to the right.

Fig. 299. We are trying to push the board into place.

Fig. 300. Result of pushing the board into place. It can be seen that it does not adjust its position with others. It but makes the original position that much worse.

Fig. 301. Triple exposure showing the justic movement being given on the subluxated block.

Fig. 302. Result of the adjustment. Shows nicely how that quick movement delivered just rightly will set it in right place. At first thought it would seem easy, but I want to tell you what to give that one blow and return to position is a hard and delicate thing to do. It can be done by steady, successive work, and this is what we are aiming to do with our daily adjustments. In this set of blocks we have had no weight or their matter equivalent to the idea that held them down or offered more resistance than by extraneous matter would.

Fig. 303. In the following views we shall introduce the idea of contracted muscles, consequently the weights take their place. You have more than the boards or the weights of them to overcome. The additional matter of contraction of muscles in human bodies is similar to adding extra matter as we have here. A person braced and then attempting to give an adjustment is analogous to this condition.

Fig. 304. In the following views we shall introduce the idea of contracted muscles, consequently the weights take their place. You have more than the boards or the weights of them to overcome. The additional matter of contractions of muscles in human bodies, is similar to adding extra matter, as we have here. A person braced and then attempting to give an adjustment is analogous to this condition. You might at first think it harder to do.





Fig. 309.

Fig. 310.





Fig. 311.

Fig. 312.





Fig. 313.

Fig. 314.







Fig. 316.





Fig. 317.

Fig. 318.









Fig. 321.

Fig. 322.





Fig. 323.

Fig. 324.





Fig. 325.

Fig. 326.



Fig. 327.



Fig. 328.

If you will watch the adjustment given here, you will find that you can do all that you would in the one not braced but you must do it quicker to get the same results. The next to last block is subluxated.

Fig. 305. The attempt to correct this subluxation with a push.

Fig. 306. The result of that push.

Fig. 307. The adjustic movement being given to this board. Notice triple exposure.

Fig. 308. Result of adjustment even the the weight was on the blocks.

Fig. 309. This illustration brings out the idea that when the adjustment is given the feet should remain firmly planted upon the floor. Some seem to have the idea that the hands must raise and lower at the time the shoulders drop and elbows come together. This is a mistake.

Fig. 310. This photograph shows the feet firmly placed upon the floor. This is the correct attitude that should be assumed at all times unless you are drawing towards you from the opposite side and wish to lean well over. Better learn the A. B. C.'s of this work before practicing the fancy moves.

Fig. 311. In all adjustments the feet should at all times be firmly placed on the floor and in addition the legs should be a base for the entire body. With a wobbly understanding nothing but flimsy movements could be expected above. Some students seem to think that the body should be subject to all kinds of contortions and gymnastics, especially the lower ends, while giving the adjustments. The opposite of this is true. Keep the feet well planted and the legs straight and immovable at the knees. In this illustration we show the one leg bent. Do not permit this.

Fig. 312. Showing the right leg immovable. My adjustment under this circumstance would be anything but settled, nor could I expect a good, strong or steady recoil.

Fig. 313. In this view we certainly have a very unsettled base. Only the poorest work could be expected to follow such cramped positions.

Fig. 314. In this view notice the correct attitude of the body. This is as they always should be. Understand, the table may be a trifle high or low and in this

instance you may wish to lower your body accordingly. This can be done by spreading the feet further apart, but even then the legs remain stiff and straight and permit no motion when the motion of adjustment is given.

Fig. 315. I call particular attention to this view, wherein the shoulders have given the drop and the elbows have come together, in other words a complete and ideal adjustment given without a single flexure of the knees or ankles.

Fig. 316. Students sometimes make the common mistake of standing too close to the patient. This is not necessary unless you are adjusting towards yourself, and want to lean away over to pull the vertebrae your way. Otherwise this view shows that the adjuster is too close to the patient.

Fig. 317. In this view the opposite mistake is made. The adjuster is too far away. He can't get the purchase. While this position is exaggerated, yet it shows the contention.

Fig. 318. In this view we have aimed to assume a normal position as generally used.

Fig. 319. We recognize the fact that thickness from before backward of various patients differ. Some of them are two feet thick, others are just a few inches, according to whether they corset or not, but our table remains stationary in height, consequently we must adapt the height of our hands to the patients, which varies according to the stationary height of the table. In this illustration we are taking it for granted that our patient is approximately the normal height plus the normal height of the table, the legs are shown to be together.

Fig. 320. In this illustration we have divided the legs just enough to drop your body about two inches, all of which has to do with a more accurate position of arms and shoulders so that better adjustments can be delivered.

Fig. 321. How much the legs may vary in degrees apart would depend upon the approximate height of the adjuster compared with the approximate heights of the patients. This every adjuster must figure out for himself.

Fig. 322. In this illustration we have found the legs spread greater yet. While in this set of views we are showing the same patient with the same approximate height, we are taking it for granted that the patient is

different in each view from a very thick person to a very small, thin one.

Figs. 323, 324, 325, 326. In these views we show a set of four views taken from a direct front of the adjusting table. The main object is to show the slant of the body and arms standing on the left of the adjusting table; adjusting left and right and then on the right, adjusting left and right. We do not get an idea of degrees or slant when our views are taken from the slide.

Figs. 327, 328. In all adjusting it is essential to have a good square heel on the floor. High heels are damaging. The shoes shown will do more harm to the adjuster's good than should be permitted. The Chiropractor should always keep the heels of his shoes low to the ground and level, so as to get a good foundation. A wabbly foot in a wabbly shoe means a body unsettled, and that means poor delivery where concentration of forces are necessary.

Fig. 329. The set of views is destined to show the place where point 1, 2 or 3 is to come in contact with the spinous process. When ready to give adjustment many students seem to confuse on exact position of where one comes in relation with the other. Shows adjusting entirely with the nail point of a nail hand. Posterior subluxation being adjusted on the superior tip of the spinous process.

Fig. 320. When adjusting a right subluxation to the left, the nail point is on the right side of the spinous process.

Fig. 331. When adjusting a right subluxation to the left, the nail point is on the left side of the spinous process.

Fig. 332. When adjusting an inferior subluxation superior, the nail point is inferior to the tip of the spinous process.

Fig. 333. When adjusting a superior subluxation inferior the nail point is superior to the spinous process.

Fig. 334. When adjusting a right inferior subluxation to the left superior the nail point is placed to the right inferior portion of the tip of the spinous process.

Fig. 335. When adjusting a right superior subluxation to the left inferior you will place the nail point upon the right superior portion of the tip of the spinous process.





Fig. 329.

Fig. 330.





Fig. 331.

Fig. 332.

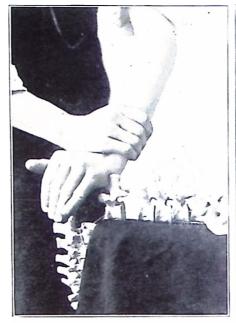




Fig. 333.

Fig. 334.





Fig. 335.

Fig. 336.



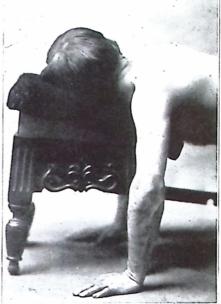


Fig. 337.

Fig. 338.

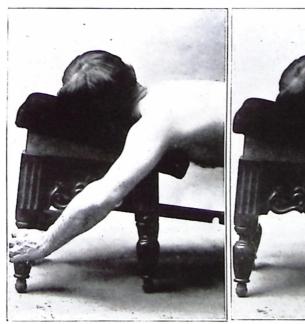






Fig. 341.

Fig. 336. When adjusting a left inferior subluxation to the right and superior the nail point of the nail hand is placed on the left inferior portion of the distal tip of the spinous process.

Fig. 337. When adjusting a left superior subluxation to the right and inferior, place the nail point on the left superior portion of the spinous process. In adjusting a patient for the first time, we can draw a similar

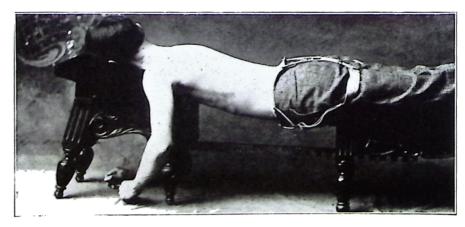


Fig. 342.

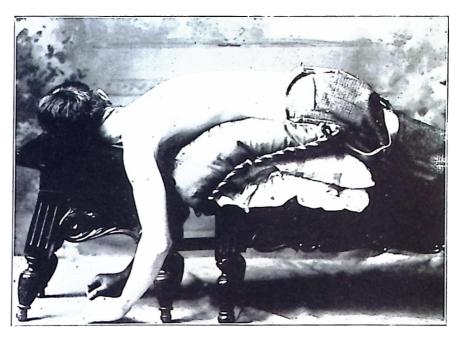


Fig. 343.

analogy as a new carpenter would find when driving nails in woods that he did not know the resistence of. The difference between a softened "hard wood" is the resistence that it makes to the penetration of a nail or nails by means of which, to accomplish his original intention, he must use easier or harder blows to accomplish. For instance, it would require less force to drive a given nail into bass wood than hickory. The various woods between

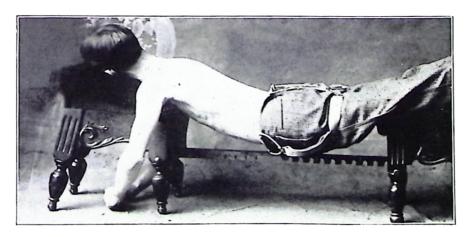


Fig. 344.

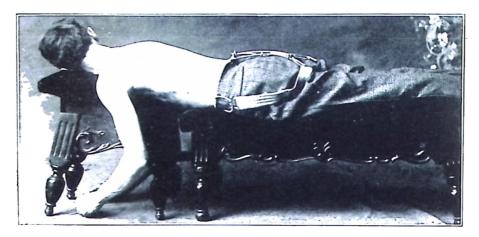


Fig 345.

would require grades of resistence either upwards or downwards. How much resistence they would make would be unknown to the new hand at driving nails, hence he would have to test and carefully feel his way until he knows. This condition of resistence universally holds good in all things; especially is this noticeable in metals and woods, as outlined, with the exception that





Fig. 346.

Fig. 347.



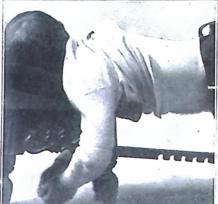


Fig. 348.

Fig. 349.

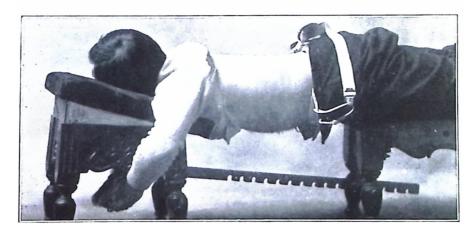


Fig. 350.

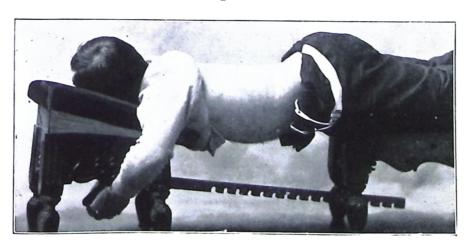


Fig. 351.

some so-called "soft" metals, as cotton, soft copper or brass, will stop the passage of bullets, whereas "hardened" steel will split into many pieces. "Soft" woods will resist the passage of a nail providing the grain be crossed or quarter-sawed. You have tried to rip a board and struck a knot; the grain here takes a circular form and resists the intrusion of the saw with more avidity than plain fibres.

Let the bullet try to penetrate the cotton and the atoms are moulded more or less into the form of strings and those of ropes or bundles, hence the form practically makes one knot or ropes, the atoms do not separate and let the harder material (the bullet) pass thru it. In copper the atoms cling so tenaciously, hence do not let loose from each other and mush, whereas with steel, it has been "chilled" and hardened; that is, the atoms have been brought into so close a union that they refuse to yield. They would resist by wearing oiled surfaces for a long time, but a sudden contact with another metal approaching it with sudden velocity would splinter its continuity into segments much the same as glass. The law governing all such bodies is the same. The passage of anything into or through anything depends upon the amount of resistence which this substance gives the other. much or how little is dependent upon how much the material atoms are displaced to let the other in. The shape and position of atoms has much to do with the separation thereof. It is easier to insert a knife blade between the long way of layers of the grain of a wood than to cross grain it. You can easily whittle the length ways of the grain, but cross grain it or whittle a knot and you are separating its particles contrary to the way it was made.

The application of this idea to the human body can be practically made. The atoms of every body differs, in some closely knit, and loosely in others. Some people are as "hickory" in physical build or others are "pine," but notwithstanding this fact the "hickory" person may relax better than any "pine" person.

The outward characteristics, training, physical or mental culture development has nothing to do with this condition. You cannot read a face, mind, by his or her actions, walk or other outward or inward conditions. The "conditions," the functions, etc., are constantly changing,

therefore you must be constantly on the alert. Portions of the same spine will vary, resist much in the cervical and resist but little in the lumbar or vice-versa. Each person presents a range of resistence within himself. For instance, you would never expect to get, no matter how the grain runs, the same lease resistence from the bass wood that you would from hickory, because the range between them is too great. On the reverse, some bass woods are harder than others, or some hickories are softer than others, perhaps two portions from the same tree near to each other will present two different degrees of resistence to your sawing. You soon become able to detect to about what range of resistence you will get from each person. From that time on your adjustments and the amount of recoil that you have depends upon and must be gauged by that range.

You would not give a "hickory" adjustment to a "nine" person. Neither would he wish to give a "pine" adjustment to a "hickory" person, for if he did it would necessitate the second movement. For this reason we wish the hands of the adjuster to always come to the skin contact with the patient. The amount of resistence that person makes is various and different at every minute and different in different localities on the same or various days, according to how their muscles are contracted or relaxed, and this depends upon whether they are normal or abnormal. Hence it is absolutely essential that the Chiropractor be receiving impressions from the skin, not thru a chemise or other clothing, which are interpreted as quick as lightning so that it is possible for the Chiropractor to give the adjustment at the moment when he finds the least resistence. It is hardly necessary to argue that, in principle or practice, no machine has been, is, or will be made, can take the place or do such work, therefore it would be absolutely useless so far as giving the right kind of an adjustment is concerned. It could push about or thrust, but it would not rebound from the patient to allow the recoil that is essential. No machine can test the resistence, therefore mechanical setting of fractures is null and void. The same is true of reducing subluxations. It is just as impossible to do the latter as the former with machinery. No device has been made that could set a fracture, dislocation or subluxation. They can be made to stretch, pull and tug, but that is not the intelligent work that is necessary to correct the above. A machine or other contraption has no mind, neither does its padded ends take the place of the highly developed and sensitive tips or portions of the Chiropractor's hand. A machine is inanimate, it interprets nothing, therefore its application assures nothing in responsive action, hence, useless.

Fig. 338. In this next set of views the attempt has been made for the Chiropractor to watch the position of the hands and arms and shoulders of the patient. The first view of this set shows the patient with the hands placed on the floor. Placing hands in this way produces a contraction of muscles of the superior spinal scapular regions, making it hard for the Chiropractor to give an adjustment in the proper portion. This is a wrong position.

Fig. 339. In the next view we show the patient gripping the front legs of the front table. In this way he offers resistence following concussion of forces. This is another wrong position and should not be permitted.

Fig. 340. In this view we show still another wrong position. The arms have much to do with the possibility of adjustments in and around the superior dorsal region. Notice the postures of the hands and arms as they are gripped together under the table and contracted to the extent of gripping around the table, all of which brings forth contracted muscles during the time in which the patient is trying to receive their adjustment.

Fig. 341. In this position we show the right attitude the hands are clasped. The fore arms are in under the table and the relaxation of the arms is complete. This is what you would watch for in patients just preparatory to the movement in giving the adjustment.

Fig. 342. In all adjusting you should advance the study of relaxation. To get the most relaxation without pinching vertebrae is the object to be sought. In this illustration we show the fids closed, hence when the individual lays down we can get relaxation, but we get no possible spring to put into place such as is found with movements when the party has a fall and produces subluxations. We accomplish little with the recoil with the body as is shown.

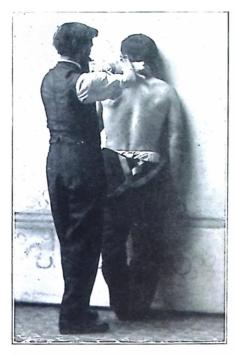




Fig. 352.

Fig. 353.

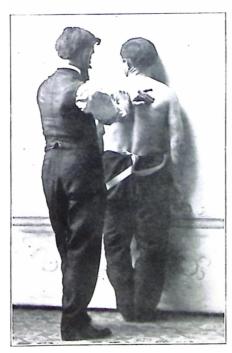




Fig. 354.

Fig. 355.

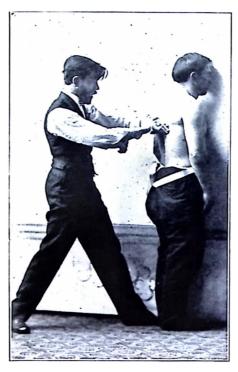


Fig. 356.

Fig. 343. This illustration shows the body bowed up with pillows, altho this is not done on the straight table, but it is shown because some students have thought it an improvement. In principle it is wrong, because a back in this position assumes an attitude where the center are binding each other. Adjustments are harder to give in this form and less results are obtained.

Fig. 344. The tables are stretched far apart to bring out the principle contrary to the one previous to this. It will be readily seen that in this form the spinous processes would bind. The error would be equal to the above.

Fig. 345. In this view we have spread the tables far enough to allow the spaces between the neurapophyses and center to be equal thruout the length of the column, hence no binding at time adjustments are given. This length is different in different people and when the distance between the fids is just right the adjustment can be given with ease and facility. You will need consider the height of our patient in each instance, altho one common length will usually suffice for all adults.

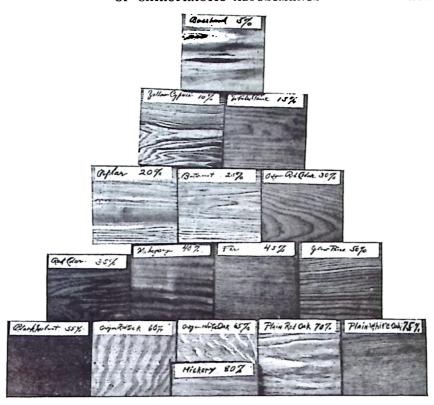
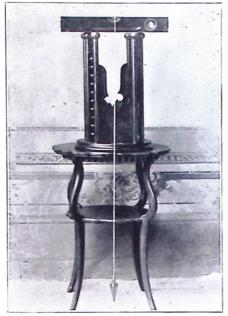


Fig. 357.

Fig. 346. After palpating for the atlas carefully, having located the laminae, placing the index finger in position to indicate where we wish to place the nail hand, we then take our nail hand, and for a moment we flatten the head, so that the skull lays flat against the table. The first illustration shows the head of the patient in the wrong position to give adjustment.

Fig. 347. This illustration shows the nail hand of the adjuster placed upon the head of the patient with the object of placing the skull on the side of the face. In this way the head is flattened and best results can be attained. In adjusting the atlas this is the last movement made before placing the nail hand ready for adjustment.

Fig. 348. In this next we show you the wrong and right way to raise a shirt, providing you permit your patient to retain his shirt, altho it is better for gentlemen patients to have the shirt removed and in the case of lady patients, remove all under garments and wear a dressing jacket opened in the back. In this way we have no garment to be in the way when adjusting cervical and upper



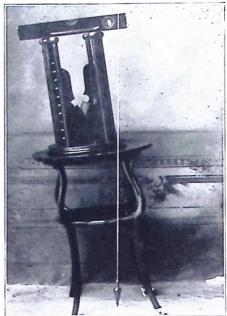
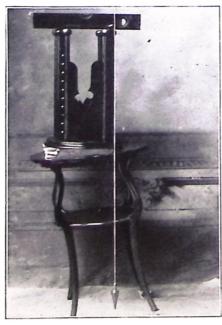


Fig. 358.

Fig. 359.





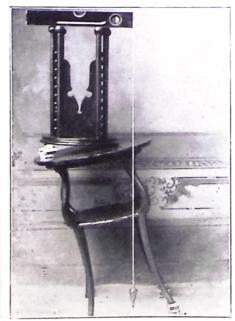
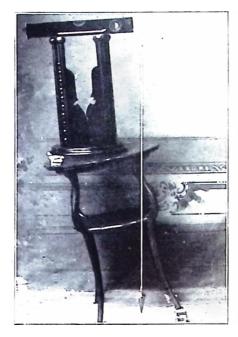


Fig. 361.



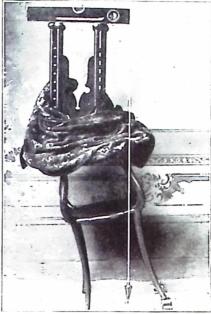


Fig. 362.

Fig. 363.

dorsal, such as H. P. and U. A. P. The more they get in the road the harder it is to give proper adjustments. The first illustration shows the wrong way of "pulling up" a shirt.

Fig. 349. We show the shirt carefully and thoroly rolled up and under, in this way the shirt never unrolls down until pulled down. This is the lesser of the two evils.

Fig. 350. In this view we show the wrong way of pulling the trousers for adjusting the lumbar and sacra subluxations.

Fig. 351. This shows the right way of rolling the trousers downward, getting them out of the way. This shows the correct way of drawing the trousers the same as the shirt does in rolling up the shirt above. While these are small items, they are important because they save future movements and permit ease, which has much to do with correctness. When clothes are in the way they are a nuisance.

Fig. 352. This first view of this set shows how it is possible to give an adjustment of the atlas. I had an experience lately which calls to mind the fact that in a hurry-up case you cannot always adjust a person on a

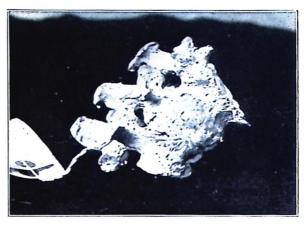


Fig. 364.

table. While walking down the streets of Omaha with a patient he took sick in the stomach—nausea, vomiting profusely. We stepped into a billiard room. I put him against a wall, gave him an adjustment. Now, the next two views show left posterior lateral view and the one following purely a lateral view of how this was done.

Fig. 353. This illustration shows the adjustment

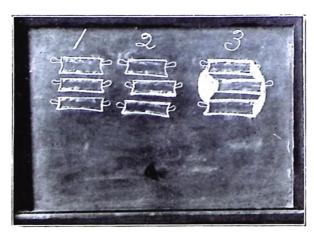


Fig. 365.

of the cervical, the angle of each adjustment changes with the patient standing, the same as it does with the patient lying, and while adjusting in this form may seem confusing and difficult, yet it is not so much as it may appear.

Fig. 354. This view shows the adjustment in the dorsal. If we had a 6 ft. 5 in. person and the adjuster

was 5 ft. 8 or 10 inches he would have difficulty in thus equalizing his shortness to the object of the patient specially in adjusting the cervicals.

Fig. 355. Notice position and attitude of the adjuster changes when he is dropping down to the lower dorsal or upper lumbar. This position shows a person of approximately equal height giving an adjustment in the lumbar.

Fig. 356. In this view we have attempted to show a side view of the patient.

Fig. 357. The following views are to impress upon your minds that it is necessary to gauge the resistance of various woods in driving the same nails the same distance with the same size hammer. The application to the body is obvious: Basswood 5% of power resistance; yellow cypress 10%; white pine 10%; poplar 20%; butternut 20%; Oregon red cedar 30%; red cedar 35% mahogany 40%; fir 45%; yellow pine 50%; black walnut 55%; Oregon red oak 60%; Oregon white oak 65%; plain red oak 70%; plain white oak 75%; hickory 80%.

This factor is not only to be remembered and utilized on the first day with your patient, but must be considered every day, regardless of the length of time that she or he may have been taking adjustment. It is also essential that you remember this precaution when adjusting each time with each vertebrae, as the person is bound to increase or decrease the resistance, perhaps not intentionally, but nevertheless it is there and is a factor that we must consider to make our work personify the highest ideas.

The following gives justifiable reasons why exostosis ankyloses are placed at various places, builded in many different forms, thicker here than there, more condensed at another position, why it is placed where it is and how removed, and whether man or innate does it. "Does man or innate get the vertebrae in normal position?" has been answered in another paper and "Does man or innate remove the exostosis thereby the ankylosis?" is a question this paper answers. Man is quick to say and assume that he does things, but does he do them as proven out by actual deduction?

In the study upon which this deduction is based, let us assure some simple illustration exerto man, then later bring our observation back to the spinal column. I have restored to the study of gravitation and adaptation thru the expressions that we can get, with man's assistance, with two inanimate tables one inverted on the other. In such a case we are seriously hampered, in its completeness, by the constant absence of that constant intellectual adaptation that should be present.

Fig. 358. This view shows both tables level and plumb—hence need nothing but a solid base between one and the other.

Fig. 359. The next shows the lower table slightly tilted to the left. Upper table on a line to the same side. Blocks have been placed the foundations to uphold them in those positions, altho in the human body exostoses take the place of such external appliances. Notice that as both tables become uneven it needs something under the respective places to maintain an equilibrium. This table is subluxated to the left of the median line.

Fig. 360. The lower table remains the same but the upper one has been raised on the left side to equalize the spaces between them.

Fig. 361. Lower table is displaced higher to the left and upper table is subluxated more to the left, with the same elevation that it had in No. 3.

Fig. 362. Upper table has been elevated higher to the right. There comes a time when normal palpation. with the local materials, such as cartilages, ligaments and muscles, is an impossibility, hence additional supports are the only possible restraining means to be used. Every tissue has a certain amount of adaptability within itself, but when it gets beyond that then additional materials as well as good adjustments to guide their deposition must be the external adaptation. In proportion as one slants, the other glides from its normal surfaces, hence no brace would soon mean that the structure would topple over. To invent a necessity is to add something outside of itself or contiguous tissues that are bound to hold it in position. By "brace" I do not mean iron, wood, steel or leather. Do not add adjuncts of addition, strength is needed. Innate will adapt with materials of her own making. Just so much as you aim to do such for her, she will outdo you.

Fig. 363. The cloth has been wrapped around the two adjoining surfaces to represent the uniting of these





Fig. 366.

Fig. 367.



Fig. 368.

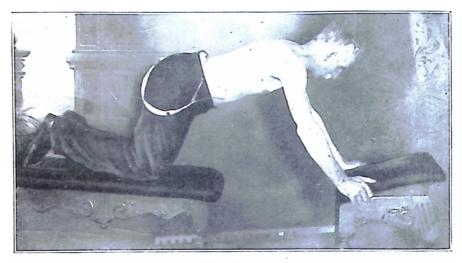


Fig. 369.

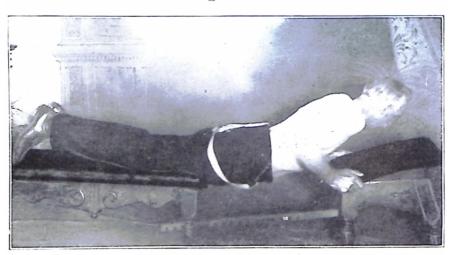


Fig. 370.

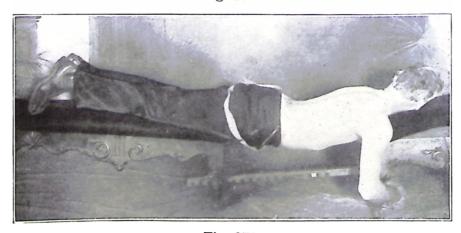


Fig. 371.



Fig. 372.



Fig. 373.

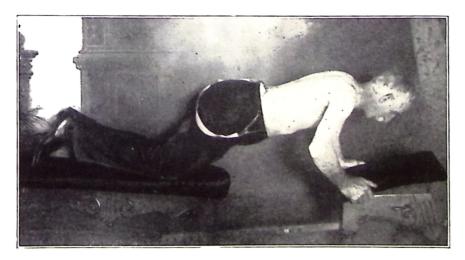


Fig. 374.

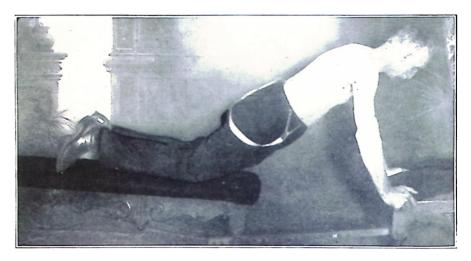


Fig. 375.

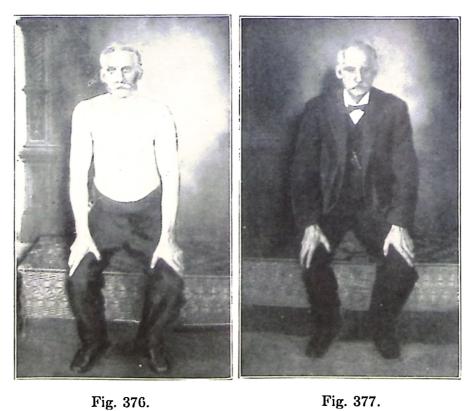


Fig. 376.

two tables by additional external matter, which prevents movements in any direction. It solders, fuses or glues the two into a unit, altho, to be normal, they should remain single. In this instance we were compelled to add something foreign to the body but in the body those materials are self made.

In studying this picture we are lead to Fig. 364. reason backward to those conclusions: Three normal vertebræ (as they were, not as they are); concussion of forces (thru some accident); subluxation (light pressure upon nerves—stimulation of calorific current, excessive heat, softening of bones, weakening of the main support); hence: necessity (for added strength); adaptation (to strengthen by additional matter); exostoses (the intellectual results of adaptation); ankylosis (the name given to the union). We have shown that there was a demand for additional strength and it has been supplied. Necessity created the invention. Mechanical deposition of materials proved mechanical ingenuity to meet the circumstances. To reverse that order we would have: Ankylosis, exostosis, adaptation (by correcting the necessity), necessity (to replace that or these bones).

Adjustment, which given daily, calls for a restoration of position to prove the unreasonableness of such added materials. Innate, thru impressions, is aware every second of what is going on in every tissue of the Interpretations, following the giving of the adjustments, prove to her entire satisfaction that continued work of that character would be beneficial. If on the reverse, braces not added she would make the ankyloses greater and stronger. This but shows the versatility of the discrimination that the innate makes between good and harmful or beneficial. Responsive intellectual section, slowly removes the exostosis by resolving it to its chemical equivalents, resorts and transports it to other parts where such is necessary, hence removes the exosto-Man adjusts the subluxation just so much as innate allows him to, thru softening and removing the exostosis at their places. Were it not for the right kind of innate responsive action the ankylosis would become stronger instead of weaker, as we desire, and get under adjustment, hence we find that adjustments are the desire and entirely satisfactory to innate instead of being repugnant.

Review this cycle.

Normal (position of the vertebrae).

Abnormal (position of the vertebrae).

Necessity to adapt her actions, intellectual for better or for worse.

Invention (in action to prevent worse conditions or better them).

Correcting (by adjustment).

Lack of necessity (when just a position has been restored or for further attention when ankylosis is complete).

Denuduction (following adjustment of the bone that was formerly deposited there).

Normal (because of the lack of necessity for abnormal strength). In proportion as the exostosis is withdrawn, resorbed, just that much will finally restore the subluxation to normal positions and the shape of the bone to where it ought to be. These braces must be decreased in size, strength or quantity before vertebrae can be replaced. The same idea works out with the table. The little blocks must be removed, taken away, before you can expect to lower that one side or the other, or expect to maintain in your upper table on the lower. You could push, shove or thrust your table for hours, but a removing of one block in one second will allow easy action in restoring normal shape. To leave the blocks as they are, allow the table to still retain its slanting position, and then take away the abnormal growth means that you left the tables worse than they were before. To add more material gains nothing. But to show wherein benefit can be devised by restoring a continuity of surface means to correct that for which the necessity arose, thus those blocks are taken away which allows us to lower the table, below and above, hence the necessity for the added cloth becomes unnecessary, which will be removed, in this instance by man, in the human body by innate and just as fast as she withdraws the obstacles to our progress we will move on, and this she will not do until reliably assured that we understand our business. This illustration is of Spec. 252 to prove the contention that has been elaborated upon above.

Fig. 365. Three sets of views. The first set is normal. Anterior of three centra. The second set is abnor-

mal. Showing centrum subluxated to the left, proving necessity of an additional brace as the normal limit has been more taxed. The third set shows the addition of the external braces. To complete the reasoning, reverse the three and give adjustment and correct.

Fig. 366. Patients along side the table. Ready for adjustment.

Fig. 367. Patients with one knee on table. One foot on floor.

Fig. 368. Patients with both knees on table. Body erect.

Fig. 369. Patients leaning forward. Hands on front table. Arms stiff.

Fig. 370. Patients leaning forward. Hands on front table. Spine straight. Elbows bent.

Fig. 371. Patients prone on table. Perfectly relaxed. The right way.

Fig. 372. Patients prone on table. Braced. Muscles tense. The wrong way.

Fig. 373. Patients prone on table. Hands on edge ready to arise.

Fig. 374. Patient raising up. Elbows bent.

Fig. 375. Patient up as far as arms will straighten.

Fig. 376. Same as 377 only stripped to waist.

Fig. 377. How to sit down on cot without bending spine.

Fig. 378. Sitting down on table.

Fig. 379. Fall on back. One leg on, one off.

Fig. 380. Lying down, one leg on, one off.

Fig. 381. How to lie down on cot. Patient prone on cot. Shows cot without pillows.

Fig. 382. Do not have cuffs or coat sleeves in the way as the above has.

Fig. 383. In adjusting the atlas do not allow the hands to lay flat as this illustration shows. You will not only injure the skull, bruise the flesh, do more hurting to the ear, but you will also not get the adjustment because the position now assumed shows that your hands are not in position to deliver the right direction. You are working from the atlas instead of towards it.

Fig. 384. In this view you will notice that the nail arm of the adjuster has been raised up and a tight, high grip made around the wrist with the hammer hand. This

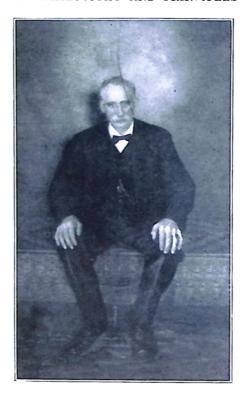


Fig. 378.



Fig. 379.



Fig. 380.

leaves the ear and skull free from any pressure whatsoever. Always have patient remove glasses before lying down.

Fig. 382-386. Refer to lecture entitled "Spinal Cord Impingments," in Vol. 6. In adjusting curvatures we have the following kinds: Kyphosis, lordosis, left scolio-



Fig. 381.

sis and right scoliosis, and last, but not least, rotatory. The fundamental basis of all curvatures is the incipient subluxation, which, through a process of time, produces a condition of osteomalacia, etc., which destroys the continuity of shape in the various portions of a vertebra to the extent of malforming its form, which malforms its position.

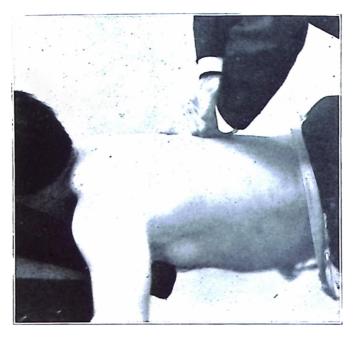


Fig. 382.

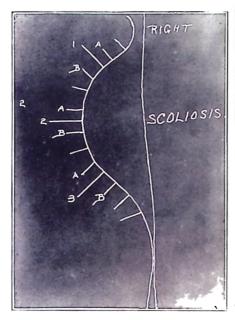
The one posterior subluxation is the incipient beginner of all curvatures. Following the posterior subluxation may occur any change such as posterior left, or posterior right, etc. Malformation of the vertebrae may tend to make this even greater, as time proceeds to destroy the shape of the vertebra itself or of the vertebrae themselves. Therefore, the beginning of all curvatures,





Fig. 383.

Fig. 384.



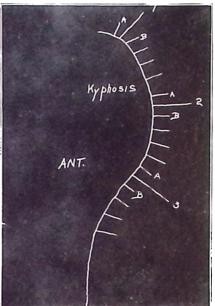


Fig. 385. Fig. 386.





Fig. 387.

Fig. 388.



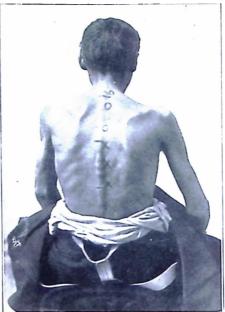


Fig. 389.

Fig. 390.





Fig. 391.

Fig. 392.

regardless of whether lordosis, kyphosis, scoliosis or rotatory, is the posterior subluxation wherever localized.

It is possible to have a cervical subluxation make the beginning of any kind of curvature in the cervical region, or we can have a subluxation in any of the dorsal region which in itself will start any kind of a curvature in that region. The same is true of the lumbar. When you observe a lordosis, remember that its origin is or was a posterior subluxation above or below the lordosis itself. In other words, the lordosis is compensatory, not a primary pathological one.

Having established as our foundation the posterior subluxation, you will find that the primary posterior subluxation may not always be at the center of the hump of a curve. Take, for instance, in this given illustration, we have Kyphosis. Point 2 would be the highest subluxation in this Kyphosis and yet the primary subluxation might have been at 1 or 3, usually above, rather than below, for that which is the destroying factor of the shape of the bones draws from above downward, not from downward above. In adjusting subluxations, there are three primary points to be considered. The highest spot where the curvature begins to show the hump; the highest spot itself (2), and then the lowest point of the curvature (3). Your adjusting will be continued daily at points 1, 2 and 3 until you have those started in leveling down your points: then take letters A and A and alternate them in section 1, and the same of A & B around figure 2 and alternate them, and the same with A & B of figure 3.

You will find that in adjusting A's today, and the B's tomorrow, and A's again the next day, that by this process you will have reduced individual curves, three in number, at three different portions. When you find those have reduced, then take the vertebra above letter A in section 1, then the first vertebra below B of section 1 on the following day, and the same with sections 2 and 3. Thus you will gradually reduce the *entire* hump of a curvature of the back.

Keep observing the complex compensatory radiating changes that occur in the regions above or below the primary hump. It is not necessary to adjust those places with the intention of reducing the lordosis compensatory curves, as those are conditions that will rectify themselves proportionately as you reduce the kyphosis.

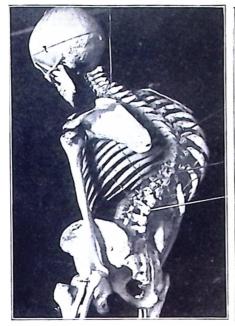
The greatest drawback we have in adjusting curvatures is that we must retrace our steps in rebuilding the shapes of the serially shaped vertebra in proportion and in serial order as they came on. This is purely a process of time, not accomplished in a day, week, or even a year; neither will is be straight in a short time. Remember that a match applied to an immense building will burn to the ground in six hours, wheras it may take six months to rebuild it. The excessive heat in many fevers is so intense that it will destroy the shapes of the vertebræ in a few weeks, or a few months, that it will take a year to rebuild.

Fig. 387. The same principles laid down for kyphosis is also true of scoliosis or of a rotatory curvature. For instance, a cross between kyphosis and scoliosis we would have a rotatory curvature. Supposing the cross is between kyphosis and left scoliosis, we would have a left dorsal rotatory curvature. The principles remain identically the same. Some times these rotatory curvatures become so extreme that the spinous processes secrete themselves under the scapila and it seems impossible to reach them. In this instance you are justified in adjusting the transverse processes to straighten, following out the same fundamental well-laid principles.

Fig. 388. In this case we have a right upper scoliotic kyphosis. The crosses indicate the three points of first adjustment, figures 1, 2, and 3 in the illustration. Then, from that, we would begin a modification of the adjustments above and below, as per the next illustration.

Fig. 389. The general tendency of direction in adjustment of curvatures is for kyphosis anterior varying. The anterior to be superior or inferior, according to whether you are adjusting the superior or inferior portion of that curvature. In a left scoliosis, the general tendency of the adjustment is right and anterior. For a right scoliosis, left and anterior. For a left rotatory curvature the general tendency of adjustments is right and anterior, more right than anterior, and vice versa for the right rotatory curvature.

In adjusting all curvatures, where they are not in distinct regions, such as a dorsal curvature, that fact does



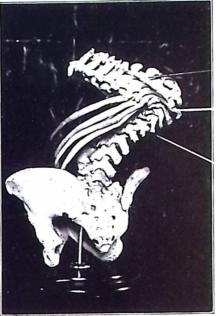


Fig. 393.

Fig. 394.

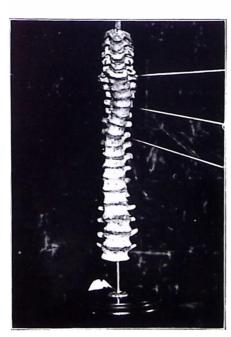
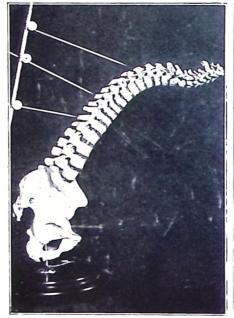




Fig. 395.

Fig. 396.



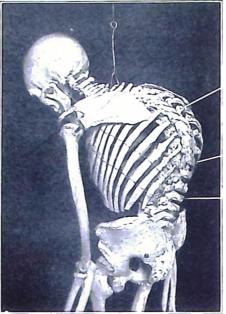


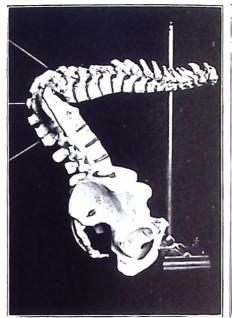
Fig. 397. Fig. 398.





Fig. 399.

Fig. 400.



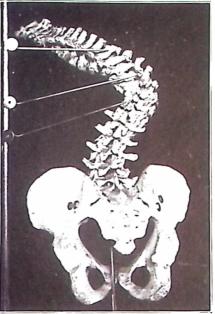


Fig. 401. Fig. 402.





Fig. 403.

Fig. 404.



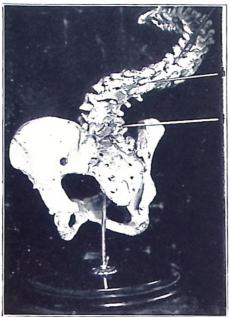
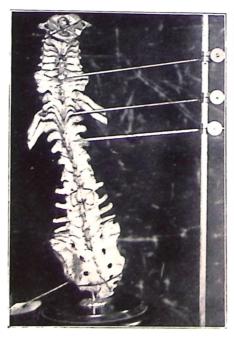


Fig. 405. Fig. 406.



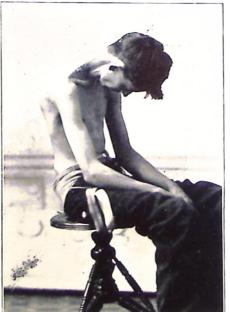


Fig. 407.

Fig. 408.





Fig. 409.

Fig. 410.



not prevent the possibility or the necessity of your adjusting any and all specific subluxations that you may find. For instance, a case of dorsal kyphosis. There may be a severe neuralgia of teeth wherein there is a 4th cervical subluxation and having in common no relation with any other subluxation below, therefore would be adjusted singly. Much more could be said upon the fundamentals of adjusting curvatures; in fact, books could be written upon this subject alone, but once you have thoroughly this fundamental then the detail can be worked out to your own satisfaction in each case. This is the principle used at The P. S. C. in all cases of this kind.

Fig. 390-391. In this particular case (Mr. B.) we have a complete dorsal kyphosis, beginning at first dorsal and ending at last. The greatest hump is from the 6th to the 12th dorsal. In other words, we have a double curvature to consider, two parts making one whole. The superior six made a curvature in itself. The lower six made another. This case would be started, in adjusting, as one individual case, but within a period of curvatures. This view shows the divisions of adjustments as would be made for the first few months, adjusting as per the lines to represent points 1, 2 and 3, as per diagram already illustrated.

Fig. 392. Three points of first adjustment as described in 382-383.

Fig. 393. Three points of first adjustments as described in 382-383.

Fig. 395. Three points of first adjustment, as described in 385-386.

Fig. 396. Three points of first adjustment, as described in 385-386.

Fig. 397. Three points of first adjustment as described in 385-386.

Fig. 398. Three points of first adjustment, as described in 385-386.

Fig. 399. Three points of first adjustment, as described in 385-386.

Fig. 400. Three points of first adjustment, as described in 385-386.

Fig. 401. Three points of first adjustment, as described in 385-386.

Fig. 402. Three points of first adjustment, as described in 385-386.

Fig. 403. Three points of first adjustment, as described in 385-386.

Fig. 404. Three points of first adjustment, as described in 385-386.

Fig. 405. Three points of first adjustment, as described in 385-386.

Fig. 406. Three points of first adjustment, as described in 385-386.

Fig. 407. Three points of first adjustment, as described in 385-386.

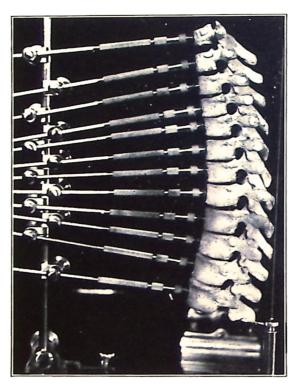
Fig. 408. In these views we have given you to understand that this is a general and specific set of rules. All rules made by man are subject to such changes as the torsions and distortions of man prove to be. Take it in this given case. This view shows the degree of curvature that we may have to contend with. The only possible shape in which we could adjust this case are two in number: First, letting the individual lie down as usual on the table with the head leaning way forward over the front portion of the rear table. In this condition the only objection was that the great bend was in the lower cervical and upper dorsal, so much so that we could not get a foundation to work upon, in fact, he swung but did not swing with a given two bases, as we desire for dorsal or lumbar work, hence to overcome this we devised the portion as is shown in the next two views.

Fig. 409. To adjust the cervical we assumed the position as shown. This gives his body as the lower base, and the knee and well-braced legs of the assistant as the superior base.

Fig. 410. In this view we show how we permitted the shoulders of the patient to rest on the well-braced knees of the assistant, the extremely forward positioned head fit in between the knees as shown. This gives us the lower table as the lower base and the legs of the assistant as the superior base. In this position we have aimed to give to the dorsal the same position that we have gained with the divided bench for the lumbar.

CHAPTER XVIII.

THE DORSAL.



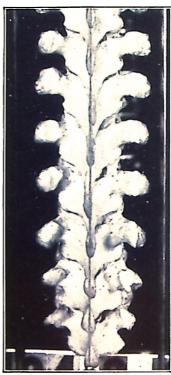


Fig. 412. Left lateral view of twelve dorsal. Shows foramina thru which brain nerves have passage from spinal cord to tissue.

Fig. 413. *Posterior* view of twelve dorsal. Notice the lineup of spinous processes when compared to the plumb line.

The dorsal, or more properly, thoracic, vertebrae are especially peculiar for the facets upon the sides of the sides of their bodies for the articulations of the ribs, and for the length and obliquity of their spinous processes. The bodies in the middle of the dorsal series are as broad from side to side as they are from front to back,



Fig. 414.

and are characteristically heart-shaped. They are generally thicker and concave behind, narrower and convex in front. On each side, near the root of the pedicle, there is a demi-facet above and below; these, when articulated with the adjoining vertebrae, form, with the intervening disk of fibre-cartilages, oval surfaces for the reception of the heads of the corresponding ribs.

The pedicles are directed backward, and the laminae overlap each other, the spinal foramen which they enclose being circular and smaller than in the cervical region. The articular processes are nearly vertical, and the costotransverse processes arise behind them. The latter are of considerable length, are strongly developed, and present clubbed extremities, their anterior portions having concave facets for articulations with the tubercles of the ribs. The first and twelfth dorsal vertebrae, in general conformation, approximate respectively the last cervical and first vertebrae. The dorsal vertebrae which have noteworthy differences are the first, second, ninth, tenth, eleventh and twelfth.

CHAPTER XIX. FIRST DORSAL.

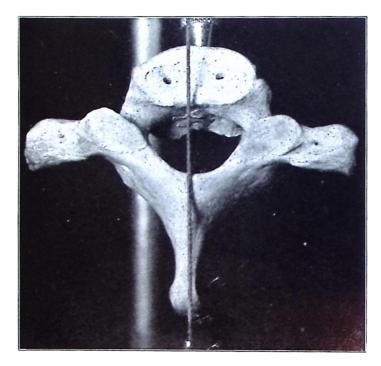


Fig. 415.

1. Vertebra and its title, A. P. or U. H. P.

The first dorsal vertebra has a whole facet on each side of the body for the reception of the head of the first rib and a demi-facet below for the upper half of the head of the second rib. In other respects its superior surface resembles the inferior surface of the vertebra prominens.

2. Superficial palpation and landmarks.

Its proximity to the 7th cervical makes it easy of location. Oftentimes this spinous process is equally or more prominent than the preceding one.

Counting downward from the 2d cervical will give its exact location.

3. Normal position and articulations.

Its normal position would be when the centrum was true with its transverse and perpendicular median lines.

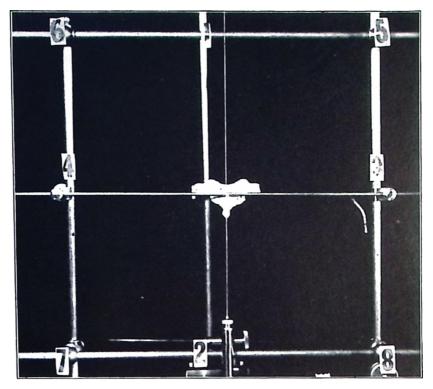


Fig. 416.

The centrum is here referred to in preference to the spinous process owing to the frequency of direct blows upon this region in youth, which makes greenstick fractures of quite frequent occurrence. This is a point which a Chiropractor can avoid by closely examining the spinous process in connection with its transverse processes. Its articular surfaces and articulations are in common with general characteristics of the dorsal vertebra.

4. Subluxations, described and illustrated.

In subluxations of this vertebra we shall lay the fundamental for that which shall be frequently referred to more in the dorsal region than in cervical. In the superior vertebrae we deal more with lateral subluxations, but in dorsal we shall have to frequently make use of superior and inferior conditions. The practitioner cannot be too careful to refer to eight direct points which can be compared to the mariner's compass. He has four directions: North, South, East and West, and this is

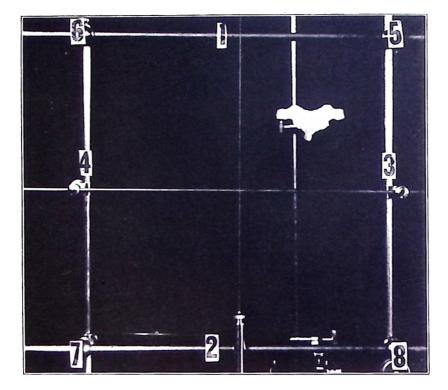


Fig. 417.

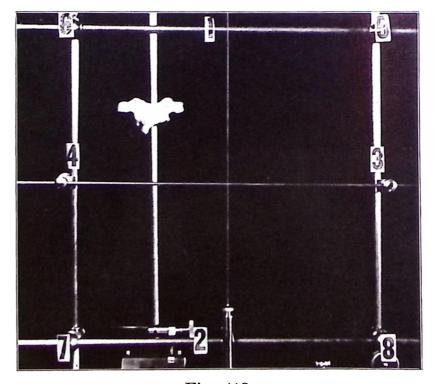


Fig. 418.

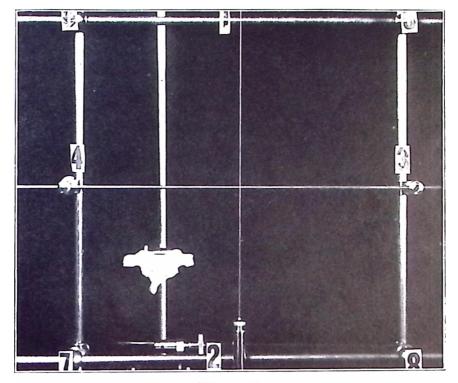


Fig. 419.

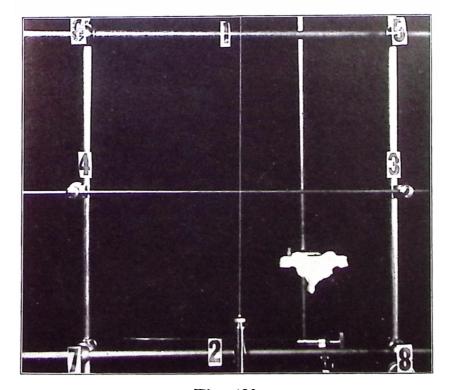


Fig. 420.

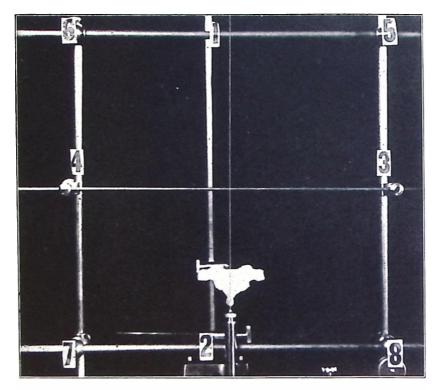


Fig. 421.

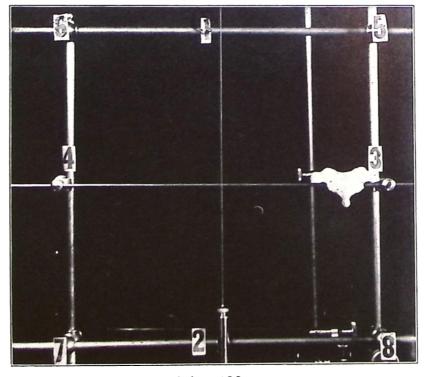


Fig. 422.

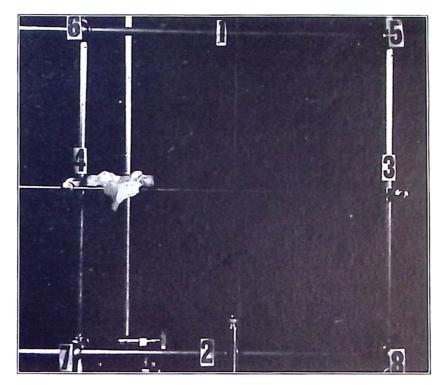


Fig. 423.

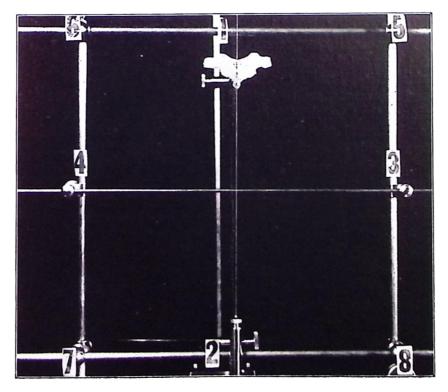


Fig. 424.

again subdivided by four further conditions, viz., Northwest, Northeast, Southwest, Southeast. What is North to him is relatively superior to us when the patient lies prone with his head to the North. South is inferior, East is right, West is left. Northwest is superior and left. Northeast is inferior and left. Southeast is inferior and right.

This form of illustrating is unique but conveys the simplified fundamental ideas that sailing a ship on the human body thru life depends upon. It assists the student in studying six simple terms which might otherwise be dwelt upon in an endless jargon of words. connection with the dorsal, we wish to portray one prominent feature which is common to all vertebrae but more noticeable in the dorsal and lumbar, viz., the posterior subluxation. With the spinal column in hand and with a keen observation and knowledge of articulations, the reader will soon learn that to produce a posterior subluxation above and likewise below a given center vertebra makes it appear as the an anterior subluxation of the middle one did exist. The Osteopath makes much over the "anterior lesion," but in cases so pronounced vou will always find a posterior subluxation existing above or below or both, and it is from these elevations that the Chiropractor takes his basis and makes his deductions. not necessarily referring to the general contour outside of the vertebra or vertebrae involved. The posterior subluxation is the landmark of the Chiropractor. It is the high spots, or, technically speaking, posterior subluxations, that he first looks for, and from this determines its abnormal position, the nerves in relation thereto, the zone involved and the consequent diseases that follow a check in the continuous flow of Innate's life forces. Years of observation have always proven a posterior subluxation to be the basis from which to begin your deductions of any case in hand. These are found singly or collectively, one or more, to the extent of all conceivable kinds of curvatures. In substantiation of this condition the posterior motions of the spine are very limited, but the posterior is only limited by the amount of subluxations posteriorly that may restrict them. The posterior bending of the column is very great. All dislocations, luxations and subluxations occur in a form to enlarge its

normal movements and very rarely in the opposite direction.

Thus the motion of the spinal column is posterior, subluxations occurring likewise. The quantity of posterior and anterior curvatures are so at variance that there is no comparison. The anterior in general makeup is only possible when Pott's disease, caries, necrosis or osteomalacia makes it possible, altho posterior curvatures are daily met with without the above pathological abnormalities.

The combination of abnormal posterior conditions are without number and it behooves the student to make first, a general survey of the spinal column and then to closely observe *each* subluxation so as to determine its abnormal position and how to antipodally correct it. It is true the entire column is based upon specific mechanical movements. Any one or combination of many may be abnormal at various places in the spinal column.

Your adjustments must vary according to condition and locality, altho every movement you may wish to use is based around the preceding illustrations with the addition of anterior and posterior directions.

For example, one movement may be greatly subluxated in superior dorsal and an entirely different kind of a movement be abnormal in the inferior region.

Each student must base his actions upon what kind of a subluxation he has to adjust. In palpating the posterior processes one can approximately determine the length of time it has been subluxated. A square tip indicates recent displacement. If the distal end is rounded it indicates the chronic stage.

The length of time is determined by the rotundity of this process. The new hand would be easily deceived by the rotundity of this process. The new hand would be easily deceived by the absent epiphysis of the neuropophysis. This is often fractured in youth and would tend to make the D. O.'s anterior subluxation and to the Chiropractor would make the superior or inferior process look posterior. The general contour, proximal region and knowledge of transverse process by comparisons will prevent miscarriages of your adjustments.

Fig. 416. Vertebra is in normal position. No adjustment necessary.

Fig. 417. Northwest, or left superior subluxation. Adjustment would be to Southeast or right inferior.

Fig. 418. Northeast, or right superior subluxation. Adjustment would be to Southwest or left inferior.

Fig. 419. Southwest or left inferior subluxation. Adjustment would be to Northeast or right superior.

Fig. 420. Southeast or right inferior subluxation. Adjustment would be to South or inferior.

Fig. 421. North or superior subluxation. Adjustment would be to South or inferior.

Fig. 422. South or inferior subluxation. Adjustment would be to North or superior.

Fig. 423. East or right subluxation. Adjustment would be to West or left.

Fig. 424. West or left subluxation. Adjustment would be to West or left.

5. Relative position of adjacent vertebrae.

According to the above, the greatest variations would be in antero-posterior positions. Heretofore the consideration has been more for the lateral and superior or inferior conditions. In addition to these we have the above. This is unimportant to the Chiropractor's work, as the compressing of vertebra together, for it is the change in antero-posterior position that materially changes the size and shape of the intervertebral foramina. The importance of this significant point must not and cannot be overestimated. That is why the posterior subluxation is so important to the Chiropractor.

6. Where nerves are impinged.

Principles of Pressures upon nerves.

From the foregoing paragraph we can readily realize how and where nerves can be impinged. The different combinations of variously distributed effects would be entirely due to the many and peculiar shapes into which this movable opening could be twisted, thus creating pressures upon the various nerves conveying the many different functions.

7. How and what makes pressures.

This has been detailed under Parts 5 and 6.

8. Functions and organs involved. Location of.

The first dorsal foramina have no vital distribution other than emits those fibres which spreads over a

region that may be bounded as follows: Both arms in any or all functions, both superficial and deep; shoulder regions as low as center of scapula superficially; upper portion of bronchi are reached by adjustments here, but outside of that we may say with rare exceptions it only controls the external of subcutaneous tissues as outlined above.

- 9. Adjustments necessary to correct each.
- 10. How to give adjustments correctly.

Close attention should be given in all adjustments to the position of the body. We have described in the hammer-and-nail comparison the exact positions of the hands in order to get the greatest force with most elasticity, as is necessary to secure best results.

The arms should direct the position, viz., the slant from or towards the median lines should indicate the direction in which the adjustment is given.

With the shoulders as a fixed point and elbows slightly bent the quick movement that is made by drawing the elbows together with a simultaneous drop of the shoulders is just such as will be sufficient to adjust the ordinary subluxation. The shoulders and upper portion should be as a fixed point directly over the arms. If the adjustment be given inferiorly the shoulders and arms should be on a slant obliquely up and forward. A plumb line from the center between shoulders, or anterior,

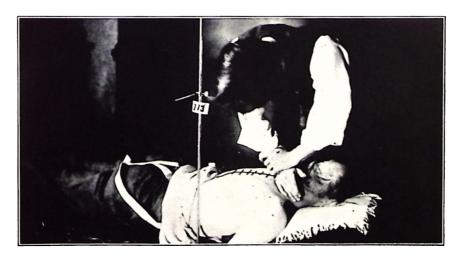


Fig. 425.

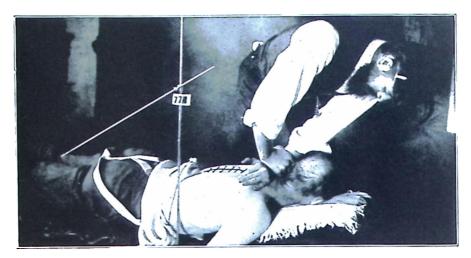


Fig. 426.



Fig. 427.



Fig. 428.

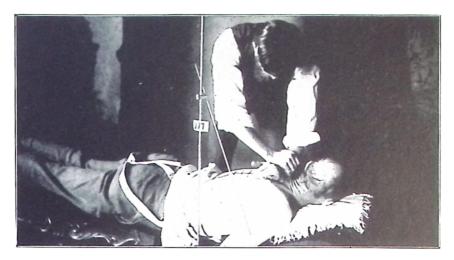


Fig. 429.

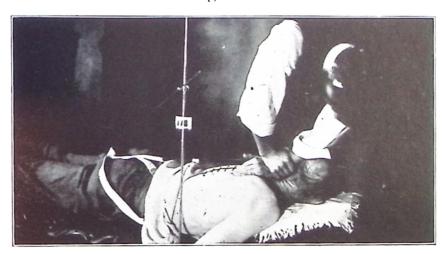


Fig. 430.



Fig. 431.



Fig. 432.

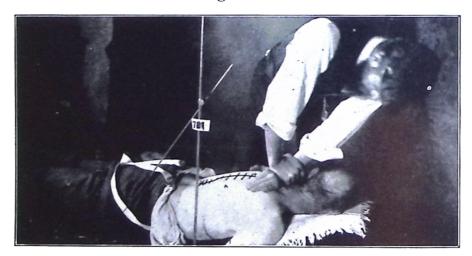


Fig. 433.



Fig. 434.

would be removed from the locations of hands according to the degree of desired adjustment.

If the adjustment be one of direct anterior then the shoulders are directly above the location of hands and plumb line ought to touch the same.

The same is true of a lateral adjustment. The shoulders and a plumb line therefrom would be to the lateral of the vertebra being adjusted.

The body in all cases should be swung in the opposite direction to that in which the vertebra is desired to be placed, thus concentrating all force to a focalized point, getting greatest weight and power together for one direct, specific and quick movement. The position of the body has much to do with the success and ease in adjusting all kinds of vertebral subluxations. On the facility which you express in this work depends much upon your adaptation with your body, arms and hands, to the abnormal position of the subluxation. Never allow the patient to lay on thon's arms when prone on the table. Watch this, as serious injury might otherwise be inflicted.

Fig. 425. Right subluxation, first dorsal. Adjustment is to left.

Fig. 426. Superior subluxation, first dorsal. Adjustment is inferior.

Fig. 427. *Inferior* subluxation of first dorsal. Adjustment is superior.

Fig. 428. Left superior subluxation of first dorsal. Adjustment is right inferior.

Fig. 429. Left inferior subluxation of first dorsal. Adjustment is right superior.

Fig. 430. Right superior subluxation of first dorsal. Adjustment is left inferior.

Fig. 431. Right inferior subluxation of first dorsal. Adjustment is left superior.

Fig. 432. *Posterior* subluxation of first dorsal. Adjustment is *anterior*.

Fig. 433. Posterior superior subluxation of first dorsal. Adjustment is anterior inferior.

Fig. 434. Posterior inferior subluxation of first dorsal. Adjustment is anterior superior.

11. What means and portions thereof to use.

The same members and portions thereof that have been described heretofore are applicable here.

12. What diseases to adjust the first dorsal for.

The diseases that might be expressed, due to a subluxation of this vertebra and its consequent pressures upon nerves, superior or inferior, may include any or many endless combinations of functions enumerated in the location of No. 8 on this vertebra. This is concerned in heart troubles on left due to pressures upon nerves in left inferior foramina. This is rare but does occur. This fact has led to this vertebra being sometimes called U. H. P. In bronchial troubles this is a prominent factor and in chronic asthma we have the peculiar "asthmatic curve," i. e., a local kyphosis of 3d or 4th vertebrae.

Fig. 416. Square showing 1, 2, 3, 4, 5, 6, 7 and 8 with first dorsal exactly in center. This illustration carries out the compass idea to the Chiropractor. 1 is North; 2, South; 3, East; 4, West. 5 is Northeast; 6, Northwest;

Fig. 417. Northwest.

Fig. 418. Northeast.

Fig. 419. Southwest.

Fig. 420. Southeast.

Fig. 421. North.

Fig. 422. South.

Fig. 423. East.

Fig. 424. West.

CHAPTER XX. 2D DORSAL.

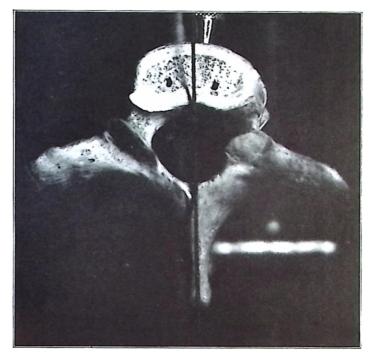


Fig. 435.

1. Vertebra and its title. U. H. P. or L. H. P.

The bodies of all movable vertebrae are united by the interposition of the disks of intervertebral fibrocartilage, of which there are twenty-three, forming about five and a half inches of the length of the vertebral column in a person of average stature. Each disk consists of outer concentric layers of fibro-cartilage surrounding a pulpy nucleus which resembles a synovial sac.

This is approximately in the center of the fibrocartilage, and contains a small irregular shaped cavity. The superficial layers cross one another, taking an oblique direction from side to side. The smallest of these disks are between the fifth and sixth cervical, from which they gradually increase downward. In the cervical and lumbar regions they are all higher behind than in front. The second is peculiar in that the pedicles occupy a higher plane than the upper surface of the body when the vertebrae are in position.

2. Superficial palpation and landmarks.

Superficial palpation at this point is usually easy, especially if there be a well marked subluxation. The shoulder region has a limited motion, therefore flexing the body would give little aid in determining the condition of abnormality. Bending forward usually compresses the centra and spreads the spinous processes, and palpation under these circumstances, at any place in the spine, is examining it under strained conditions. In other words, you are determining abnormalities that you have caused to be made greater. This is a good means of exaggerating the conditions and proves them up easier, but I cannot recommend it as being accurate in assisting palpation for subluxations.

Palpation should be conducted with accurateness when the patient is in what is to him a restful or easy posture. Palpation while on the divided bench is the opposite or exaggerated in the reverse conditions and is not exact, and the student must remember how the vertebrae were while in the sitting or prone position on a flat table.

3. Normal position and articulations.

The auricular surfaces of the centra and articulations of all processes are alike in all dorsal vertebrae, the difference existing in the number and position of costal articulations.

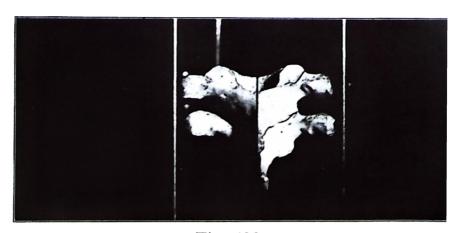


Fig. 436.

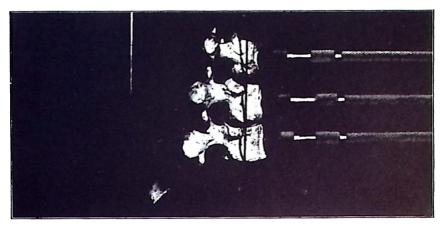


Fig. 437.

4. Subluxations, described and illustrated.

The mobility of the dorsal vertebrae becomes greater as we approach the 12th dorsal, altho proportionately it is supposed that the size, solidity and strength of the ribs correspond to the increased liability caused by greater motion. Experience as a Chiropractor does not bear out this fact, but, on the contrary, we find that all dorsal vertebrae are particularly adaptable to subluxations. Outside of this general dorsal observation, the subluxations are similar to those of the 1st dorsal, remembering that its range of movement is greater, therefore the degree of subluxation corresponds, and as a general thing the degree of pressure is equivalent to amount of subluxation.

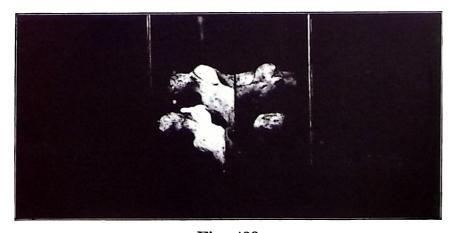


Fig. 438.

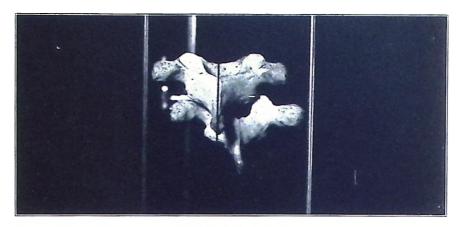


Fig. 439.

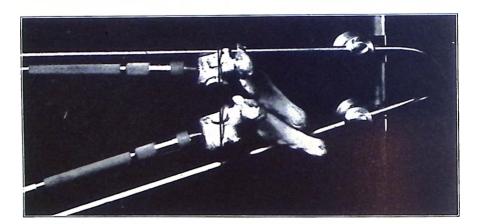


Fig. 440.

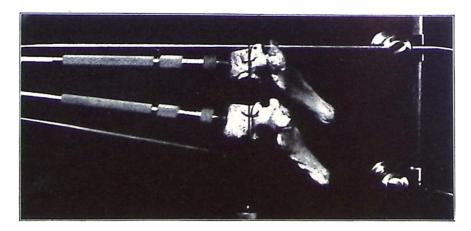


Fig. 441.



Fig. 442.



Fig. 443.

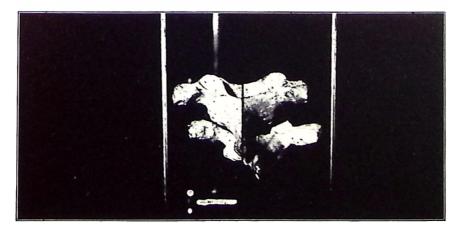


Fig. 444.

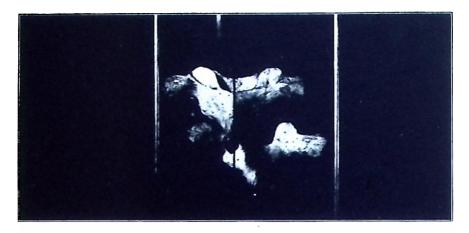


Fig. 445.

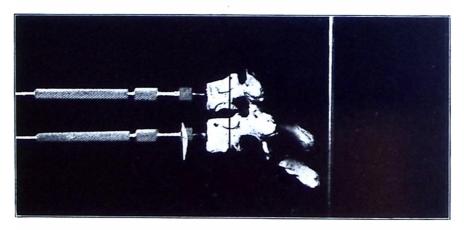


Fig. 446.

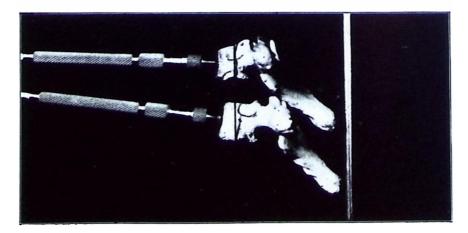


Fig. 447.

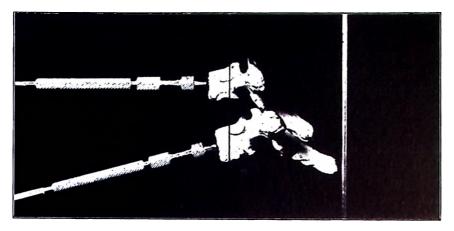


Fig. 448.

Fig. 436. Posterior view of first and second dorsal vertebrae. Normal.

Fig. 437. Right lateral view of first, second and third dorsal to show relative depressions of spinous processes.

Fig. 438. Left subluxation of second dorsal. Posterior view.

Fig. 439. Right subluxation of second dorsal. Posterior view.

Fig. 440. Superior subluxation of second dorsal. Lateral view.

Fig. 441. *Inferior* subluxation of second dorsal. Lateral view.

Fig. 442. Left superior subluxation of second dorsal. Posterior view.

Fig. 443. Left inferior subluxation of second dorsal. Posterior view.

Fig. 444. Right superior subluxation of second dorsal. Posterior view.

Fig. 445. Right inferior subluxation of second dorsal. Posterior view.

Fig. 446. *Posterior* subluxation of second dorsal. Left lateral view.

Fig. 447. *Posterior superior* subluxation of second dorsal. Left lateral view.

Fig. 448. Posterior inferior subluxation of second dorsal. Left lateral view.

5. Relative position of adjacent vertebrae.

The 1st dorsal is almost a fixed point, therefore the larger per cent of supposed subluxations of the 7th servical would be with the 1st and 2nd dorsal below. Correspondingly the 3d would be greater than 2d.

6. Where nerves are impinged.

The size of the nerves and blood vessels is sufficient to almost fill the intervertebral foramina, therefore we shall consider what is a normal amount of free play at such junctions. It is when the abnormal extent of movements, combined with external shocks, are brought to bear upon such articulations that they are more or less torn from their usual movement, hence we have a partial dislocation or luxation termed subluxation. It is in this excessive condition that the openings are made smaller and pressure exists upon nerves. Arteries and veins are equally as much compressed, but the former have very ample anastomoses representing a provisional nature of adaptation. As for efferent nerves, they are fibres with a point of origin and one of insertion expressing a transmission in one direction, hence pressure upon that interferes with the life current, which does not know anastomoses until expressed; then functions are harmonious and in unison with many like motions.

Arteries and veins that pass in and out have their normal anastomoses, therefore it is impossible to obstruct such a flow for one moment. Nerves are composed of fibres which have direct starting points—brain—and specific peripheral tissues in which they end. They have no intervening or connecting substances with which they can communicate; in other words, have no inoscultation. Therefore interference with their direct transmitting or conveying powers by pressure of a hard substance, bone, or by an occlusion of this opening, would mean stoppage or a lack of the Innate force current that nerves convey, hence disease.

7. How and what makes pressure.

This has been described and detailed most carefully under

8. . Functions and organs involved. Location of.

The functions involved would be common to all tissues and are necessary to the equilibrium of the mental with physical. The location takes in the region of the arms, shoulders, upper bronchi, chest, heart, upon left and sometimes upper division of lungs and pleural sac.

9. Adjustments necessary to correct each.

The foundation as laid down under 1st dorsal vertebra is applicable to all vertebra. I cannot conceive of a single movement possible to give vertebra, regardless of location, degree of subluxation or condition, but what must be adjusted under some one or combination of several of those outlined. The accuracy depends upon the correctness of the analysis given previously and for this reason I prefer the comfortable sitting posture for detailed exact positions of the subluxations.

10. How to give adjustments correctly.

In giving Chiropractic adjustments there are many points to be involved. While it is true that anyone can push bones into place and make them "pop" or "crack," that is far from delivering an accurate and exact correction of subluxations, and getting the attendant results.

I know of no more accurate or precise work than this and it is only close application, utilization of all points at one time that makes the student a capable man at his bench. To use one well and fail utterly upon another is oftentimes sufficient to spoil what good might otherwise have been certain. Many pseudos are getting results, but it is by using a haphazard method. They do not know the basis upon which it was accomplished and tomorrow might and possibly would, in the majority of cases, fail. The thoroly posted ought to be able to decipher why they could not get results, and this culmination can only be attained by a most complete philosophical and practical knowledge of the principles which underlie his work. If the patient but gives the thoroly posted Chiropractor the proper time, failure will be a stranger that knocks but seldom at his door.

The following article involves the idea of "recoil." For fear that the lay mind will not accept this word as it is intended, in its broadest sense, I quote from two dictionaries to show how it is used.

"Recoil. To start, rush, roll or fall back, as in consequence of resistance which cannot be overcome by the force impressed,—to fall back after an advance.—To

be driven back or forced to retreat,—to fall back. To start or shrink back, as from something repulsive, distressing or alarming. To shrink thru fear,—to go back; to revert,—to drive back." New Revised Encyclopaedic Dictionary.

"Recoil. To start, roll, bound, spring or fall back,—to be driven or forced backward,—to draw back, as from anything repugnant, distressing, alarming, or the like, to shrink,—to draw or go back." Webster.

"Why and what is the object of a quick, light, energetic piano touch, adjustment in preference to a slow push, shove or thrust upon the vertebrae?" is a question students quickly ask. All forces, whether normal or abnormal, have a certain degree of recoil, resisting force, that is utilized for good or bad according to its degree. A fall occurs; the concussion of forces creates an extensive abnormal rebound which does not allow the vertebrae to recoil to its normal position, hence it becomes an anomalous specimen, exhibiting subluxations not alone in position, but conveying to the Chiropractor the knowledge of damage to the current flow that passes between its openings.

The violence of the forces that were spent at the time of the fall, wrench, strain, or other injury, was too much for the normal contractions to handle, hence became a reverberating recoil that no longer could be controlled by Innate—a resilient monster. This means that it cannot resume its normal position, after the shock has been spent, for it has settled in the position determined by terminal cessation of vibrations.

When the bullet or cannon ball leaves the rifle or cannon it does not back up to get force to go ahead. The powder, that explodes is behind the bullet and as soon as that goes off the initial impulse and others which follow it send it forward and keeps it going forward. After the bullet or cannon ball has gone forward, then the recoil comes in on the rifle or gun carriage and makes it go backward. The same is true when adjusting vertebrae. The initial impulse sends the vertebra away from the hands, but the hands and arms receive the recoil, causing them to rebound, but the subluxated vertebra to go onward to its normal place.

You have watched men chop trees and you have noted with interest how effective the blows of some men were and how others accomplished little or nothing with their blows. The secret lay in landing the blow. Take two given men and let them hit a hammer which throws a dial upward, as is seen in amusement resorts, and one will throw the dial higher than another and perhaps use less strain in so doing. The whole secret lays in the effectiveness with which he lands the blow. You may hit the tree with an axe, yet not cut the grain; you may hit the hitting post, yet not drive the dial. The knowledge of the recoil in and behind all of this is what makes of one man a success and the other a failure. The movement that has the landing capacity and the recoil get away is the man who makes good at such work.

The Chiropractor judiciously reverses initial order. He uses force with the added knowledge of how to reverse its direction from what it was to what it must be. moderate concussions of forces is daily brought into play. Instead of throwing terrific power into his work he, in a mild manner, utilizes with keen discrimination the ability to draw back or return with concussions the temporary object of which is to create a toned down, successive series of recoils, having for their permanent intention the steady returning to a normal flow of Innate Impulses. His concussions, created voluntarily, are in a definite direction with the object of gradually working the vertebra back to its original articulations. By so doing, the obstruction made by the former subluxations is gradually opened. His work creates a beginning and allows Innate to enlarge foramina by recoils, and finally does more than that, viz., re-establishes the current between Innate and her physical body.

Subluxations are caused by concussion of forces, excessively and awkwardly applied. The interruptions to the normal flow of Innate mental impulses is the cause of all diseases. When conditions are made possible, a gap created, Innate can, will and does reverse the order and uses the same means, but in different direction and degree. The manner of the former (fall, wrench, etc.) was such that it was put out of place; of the latter (Chiropractic adjustment) to correct it. The former external forces were too great for Innate to master or circumvent.

In the latter case it is within her grasp and therefore is utilized with that degree of intelligence by which that personality is characterized.

To accomplish this the student must keep constantly before his mind not how much to punch, thrust, drive, pull or compel vertebrae to go into place, but how to give the movement so as to create an internal, responsive action—Innate recoil—which replaces it in juxtaposition. The recoil should be his sole aim, and the more intelligently he can work with that end in view the better are his results.

Falls, wrenches, etc., are attended with stuns, dazed conditions, and shocks. This is the abnormal recoil following the abnormal application of an excessive concussion of forces, consequently and subsequently followed by occlusion of foramina, pressure upon nerves and interruption of mental currents, hence disease. The fall will do in one moment, on account of its terrific velocity, what the Chiropractor will work to accomplish in days, weeks, or months, but the latter will take it step by step, day after day. It is not within his province to undo all at once what took place by such harsh, irrational means; not but what it could be, and is being done by experienced hands, but too often the risk proves fatal to life.

The object is not alone to hear bones click, or to aim in getting a "movement" between vertebrae, for often vertebrae move every day and yet no benefits are derived. Why? Because vertebrae are not returned to normal articulations, for this cannot occur unless a recoil exists, brot about by an intelligent administration of external force, so that Innate can adapt it to an assumption of a new or the old normal position. The results of concussion of forces must be studied in each case and correction by a reversal of the former must be applied in an evolutionary manner. Make every move tell by that quick, energetic, light, mentalic touch that makes the Chiropractor's adjustment different from anything that has preceded him.

The attempts at corrections of deformities, by any means whatsoever, have always been a slow and tedious process. The object was to see how slowly and steadily the effects could be forced into normal line. The cause of all abnormal functions is an instantaneous concussion

of the external force coming in contact with the resistance of the internal, followed by a rebound which cannot assume the normal on account of its violence, costing the patient the loss of a flow of life elements. The corrections must be equivalent, altho heretofore they have been along antipodal lines. Instead of applying tit for tat at the residence of the cause, it has been a tug and pull proposition upon effects.

The principle taught in setting fractures and dislocations is the nearest approach. The endeavors were to produce relaxation by natural or artificial means and then, with a steady pull and a moderately quick movement, reset the fragments by a rebound opposite to its present abnormal position. What forces were used? The reversal of the ones that caused it. The same ideas with the addition of the laws of causative factors are elaborated upon and made into a philosophy, science and art in Chiropractic adjustments where levers (spinous processes) are used in adjusting subluxated vertebrae to reinstate the fulcrum (articular processes) to again restore Innate Intelligence to her dwelling place.

Chiropractors make an external agitation but Innate creates the recoil and then the simultaneous action corrects the cause. We, by using our hands against vertebral processes in a quick, energetic manner, create a demand for resistance which is met by an internal intellectual response; it is this answer to our call that exactly shifts or transfers the vertebra into normal position.

While we arrogantly claim the honor of the simple and exact results that follow, we are but the instruments that guide the external impetus. We do not create or generate the power that we used nor the responsive force from the patient, hence we are but an instigator for the concussions of force, which would be useless were it not for Innate Intelligence. The continued application of this internal work is a counterpart to the internal Innate that persistently replaces the vertebra until it has returned to normal. It is the power that Innate has utilized in these local spots that expresses her ability to replace the vertebra. Innate creates power, causes its expression, resistance, the function of which is to replace vertebrae, and then generates sufficient intellectual, inherent

power to run the organism along normal planes so long as exterenal violences do not again occur.

A good proof of the above is that persons receiving violent concussions of forces will often hear or feel the vertebra move to an abnormal position several or many seconds after the fall, while the shock is yet spending its power. I have, many a time, heard the vertebra return to normal several or many seconds after the fall, while the shock is yet spending its power. I have, many a time, heard the vertebra return to normal several seconds after my hands have been taken from the body. Immediately after the adjustment the hands are withdrawn and it is then that the vertebra is heard (upon the part of the adjuster and felt by the patient) to return to its normal position. Especially is this noticeable in acute subluxations.

The object of this drill is to get the student thoroly familiar with the direction of hands and which hands to have according to which side you stand when adjusting cervical. While we have other drills somewhat similar, yet this carries him on to a higher and more exacting knowledge.

Have your ten tables arranged as is usual—have ten patients on them—have your ten adjusters working at one table. Have him first stand on the left of the patient, with the patient's face from you. Count 1, 2, 3. Next have the patient turn his face from you, then count 1, 2, 3. Then have your student go to the right side of the patient, with the patient's face from him, and count 1, 2, 3. Then turn the patient's face toward him and count 1, 2, 3. In each of these drills you will find that the student becomes more habituated in knowing which hand to put in the right place at the right time. These drills make proficient the student in cervical positions.

11. What means, and portions thereof, to use.

In conclusion of the above we must see the shoulder movement and position, arms must be directed correctly, hands in the proper positions, and all must aid in giving the right movement in a simultaneous manner. The adjustment then will have been correctly given. Concentration of detail until focalized is the hardest labor the student meets in his work. The willingness to do and remembering all points and then the execution at one time is what makes one a better success than the others.

12. What diseases to adjust the second dorsal for. The many and various diseases of the heart, such as palpation, etc., rheumatic conditions of shoulders, arms, chest and upper back region.

Contractures of aforesaid regions, asthmatic or hay fever troubles predominate prominently at this point. The superior portion of the pleural sac might be involved in such abnormalities as pleurisy, pneumonia and "neuralgic pains" upon breathing, etc.

CHAPTER XXI. 3D DORSAL.

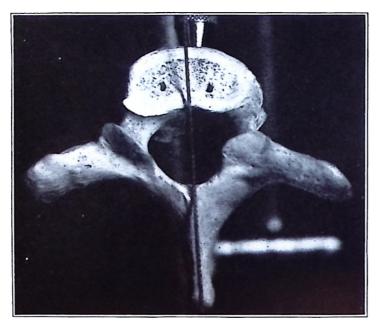


Fig. 449.

- 1. Vertebra and its title. L. H. P. or U. L. P.
- 2. Superficial palpation and landmarks.

In palpating for subluxations there is no set rule which can be held firmly in all cases. Where a disease has its correspondent, subluxation may vary. In the embryo logical study it has been determined that the spinal column expands faster proportionately than the spinal cord and thus the early formation of the foetus is not always positive as regards the exit of nerves upon-leaving the vertebral column. What is known as "H. P." in one individual may slightly vary above or below in another; i. e., in one foetus the fibres emit at a position superior to what they would in another, thus shifting the location of those nerves that go to the heart. It is thus impossible to say that 3d dorsal is always Heart Place. Such locations are determined by the general average and palpation of many cases.

For convenience, The P. S. C. many years ago worked out the following survey of the vertebral column. This always can be relied upon, but not always the same in two people, as the nerves are not always localized in the same place. This is a general plan, more than a specific one, of the nerves, zones and their distribution and what portions of the spine the nerves emanate from, and is, as it were, a majority index. The Chiropractor must take each patient and make it specific.

The branchings of the nerves, in two people, are not the same, therefore the application of this system must be made to each case individually. It is for this reason that *The P. S. C.* refuses to sanction any particular set as a "key," for any one would be wrong in some cases altho correct in a particular one after which it has been patterned.

For instance, "H. P." could be localized at one vertebra in person "A" and in "B" it might and could vary by two vertebrae. That is why a latitude of 2 or 3 vertebrae is allowed in the following chart.

The principle is such that it must be examined and individualized to each patient that comes to you.

1st Cervical—At. P. (Atlas Place.)

2d Cervical—Ax. P. (Axis Place.)

3d Cervical—U. C. P. (Upper Cervical Place.)

3d, 4th, 5th Cervical—M. C. P. (Middle Cervical Place.)

5th, 6th Cervical—L. C. P. or U. A. P. (Lower Cervical Place or Upper Arm Place.)

7th Cervical—V. P. (Vertebra Prominens.)

1st, 2d Dorsal—A. P. or U. H. P. (Arm Place or Upper Heart Place.)

2d, 3d, 4th Dorsal—L. H. P. or Lu. P. (Lower Heart Place or Lung Place.)

4th, 5th Dorsal—Li. P. (Liver Place.)

5th, 6th Dorsal—C. P. (Center Place.)

5th, 6th, 7th Dorsal—(Stomach Place.)

7th, 8th, 9th Dorsal—Spl. P. (Spleen Place.)

10th, 11th, 12th Dorsal-K. P. (Kidney Place.)

1st, 2d Lumbar—U. P. P. (Upper Private Place.)

2d, 3d, 4th Lumbar—P. P. or U. R. P. (Private Place or Upper Rectal Place.)

4th, 5th Lumbar—L. P. P. or R. P. (Lower Private Place or Rectal Place.)

Sacrum—Sa. P. (Sacrum Place.)

Coccyx—Cc. P. (Coccyx Place.)

Nerve tracing makes this work exact and precise, determining to a preciseness the foramina from which the impinged fibres have their exit. Chiropractors place the three fingers on the region and detrmine some one of the foramina underneath where the pressure exists and fibres going to the organ that he wished to locate. Each disease had a local zone and in this region is one specific subluxation which is producing direct pressure upon certain fibres interfering with a continuous flow of mental impulses and making a pronounced disease. Pressure may be at peripheral as well as at the exit from the spine. Traumatism may, can and does occasionally create local pressure, but unless accompanied with shock sufficient to produce vertebral subluxation (which is usually the case) will only make local and temporary symptoms. If subluxation follows as a consequence to the traumatic concussion, the disease will be permanent. If a nerve be found tender, it is impinged, the degree of sensation depending upon how much pressure is interfering with functions. Occasionally a case of paralysis (this term is used in its broadest sense to mean wherever there is lack or excess of function) will appeal for help, but palpation and nerve tracing reveals no tender nerves. This is due to pressure being so great that no impression can reach the brain to be interpreted. But in such instances close proximity to the region of the subluxation reveals taut nerves, thus determining the location of the cause.

Combining the analysis with nerve tracing and knowledge of cause makes accurate work for the Chiropractor. Under this head it is well that we speak of the quality of feeling of nerves in various people. The facial appearances, temperaments, physical qualities and dispositions are different. These actions are but the expression of what exists. They are different and this condition of contrast is in the Innate adaptability to

external circumstances. One individual may even assist the surgeon in removing an extremity.

It is often referred to as "grit," but is due entirely to the different quality in the feelings and abilities to convey these impressions. Another person would faint at the sight of blood, or the removing of a sliver from the finger. The same conditions exist in the patient telling of his pains or aches. One will exaggerate and the other



Fig. 450.

mildly state symptoms when most excruciating pain is being endured. This factor must be taken into consideration in palpation and nerve tracing. Due allowance must be made for this susceptibility and manner of statement.

3. Normal position and articulations.

The location of this vertebra, in relation to its mates, is similar to those described in the past.

4. Subluxations, described and illustrated.

In all subluxations there is more or less abnormality of position. If the circumstances indicate the probability



Fig. 451.



Fig. 452.

of future greater abnormalities (and Innate is the judge) then will utilize its forces to prevent such by the proper placing of mechanical ties, ferrules, bands or piers which will suffice to retain the vertebra to as near normal as possible. This is one of the instances where adaptation follows the circumstances. These supports or braces are the consequence or result of the conditions which necessitated them. As the ankylosis is an accommodation, it is for the Chiropractor to adjust the subluxation and by doing so have no need for the scaffolding or false work which was a necessity then but not now. The process will start by slightly breaking the ankylosed tissue and in proportion to the correction of the subluxation just so far will the exostosis be removed. When the exostosis is builded in great quantities and of large size and of considerable thickness, the average physician would make claims that to break it was an impossibility, that the "original bone would fracture before the ankylosis." Usual thinking would confirm the statement, but when it is proven by many clinical cases such as are on record at The P. S. C., that the first structure is 20 to 30 years in slow, steady formation, and those fractures are rapidly united by callus in 10 to 14 days' growth, it will be seen that the latter have not the consistency and solidity of the former, therefore is that which loosens its grasp first. In chronic and some acute conditions, where excessive heat or other functions have been or are present, the Chiropractor frequently meets with exostotic growths in many mechanical phantastic forms in and around vertebrae. These are ordinarily simple and easily adjusted, when you know how. The per cent of ordinary cases that have exostosis is an almost impossible question to settle. Considering the experience of The P. S. C. I believe it could substantiate that two-thirds of the general run of cases have more or less of such conditions present.

5. Relative position and articulations.

The juxtaposition of a vertebra with the other is a necessity to have normal position, consequently no pressures upon nerves.

- 6. Where nerves are impinged.
- 7. How and what makes pressurcs.

These have been covered by the same points in previous vertebrae.



Fig. 453.



Fig. 454.

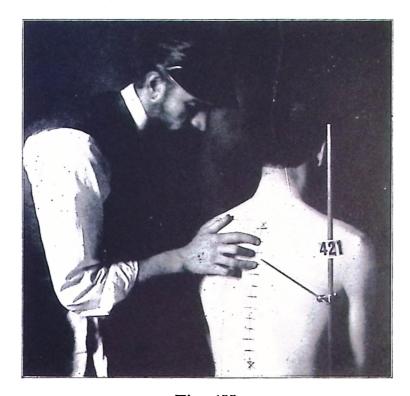


Fig. 455.



Fig. 456.



Fig. 457.



Fig. 458.

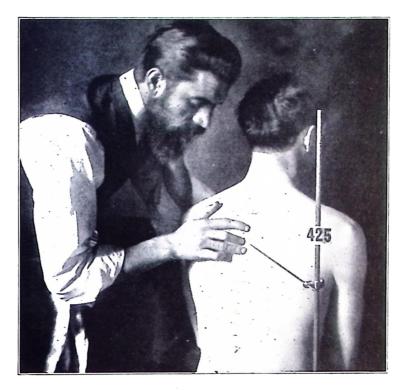


Fig. 459.

8. Functions and organs involved. Location of.

Upon the left side issue those fibres which give transmission to mental impulses controlling the functions of the heart. Upon the right we have no definite viscera except the superior part of right lung, and chest and back region in the immediate vicinity. Sometimes the left lung will be located with its nerves leaving the corresponding foramina, altho this is not properly Lung Place.

9. Adjustments necessary to correct each.

In the adjusting room respect should be mutual between patients and Chiropractor. Your patient should remain seated for superficial and deep palpation or nerve tracing. When once this has been determined have him stand at either side of the adjusting table, place the knees upon the forward part of the rear section, then easily bending forward, he can, with the hands, grasp the rear portion of the forward section, then letting the chest down so that it rests easily upon the forward portion of your

The distance between the two sections is determined by what portion of the spine is desired to adjust, how much the patient resists, or relaxes, whether there is much ankylosis or not, and thon's size and length. the average, the wider the division the greater is the leverage for the Chiropractor, and the easier and quicker the results for the patient. Thon may object, thinking he or she will have a broken back, but assurances will soon convince otherwise. After the adjustment, during which you have spoken of thoro relaxations as the greater help, upon their part, the patient rises squarely upon his knees; under no circumstances permitting any twisting or contortion. In dressing have them be careful not to flex or bend the head, back or hips to any great extent or more than is necessary, inasmuch as the patient can quickly undo all the adjustor has accomplished, if care is not exercised. After dressing see that the patient lies not less than one-half hour in your "rest room." does not mean that because he lives next door or "only one block away, up stairs or down, that he can go there and rest," for the muscular action necessary to go up or down stairs, into vehicles, or street cars, is often sufficient to jar out of place what you have been correcting.

If you permit such indiscretions it is but a short time until your patient complains of no results and you are held responsible, therefore you, as the Chiropractor, backed by experience and knowledge about which he knows comparatively nothing, must be firm and hold steadfast to that point. Results are what must be shown or you are a failure. Just before giving the adjustment it is well to give a few words of explanation, telling your patient just what you intend doing, that it will hurt for a moment and might be attended with girdling pains for a minute or two. By so doing they repose confidence in you sufficient to allow the second adjustment. first adjustment with a new patient must be a feeler, i. e. you must test him in all ways, find out whether he braces or not, is extremely sensitive or not, whether vertebrae adjust easily or the reverse, etc., after which you will know exactly what your patient is capable of receiving daily.

In extremely sensitive or chronic persons the work may seem tedious and slow, but by care and making movements accurately it will be but a comparatively short time until satisfaction in delivering good work will be with you and the patient. In delivering adjustments to infants remember the age with which you are working. The child's spine is more pliable and plastic, therefore the greatest care should be shown. It is better to have the mother leave the room, not that she may learn some idea, but the mother's love will often rebel against the adjustment for fear "you might serious injure her child."

Fig. 462. In this set of views I have endeavored to draw lines to show the areas that vertebrae will work around. The subluxations are named by where the spinous process is. Note where the spinous and transverse processes are, in this illustration, which is normal.

Fig. 463. Left subluxation. The entire vertebra has rotated around its pivot until the posterior is to the left of the median line.

Fig. 464. Right subluxation. The opposite of Fig. 254.

Fig. 465. Superior subluxation. Notice its position, in relation with the cross bars, as compared with the normal.

Fig. 466. Inferior subluxation. The opposite of the preceding photograph.

Fig. 467. Left superior subluxation. In this we have a combination of the left with the superior. While the position is exaggerated, yet it is in accordance with many curvatures met with in our work.

Fig. 468. Right inferior. The direct opposite to the preceding one.

Fig. 469. Left inferior subluxation. It is well to refer to the normal occasionally so as to fix in your mind where it is abnormal in comparison with the cross and perpendicular bars.

Fig. 470. Right superior subluxation. The subluxation is determined by the abnormal position of the spinous process.

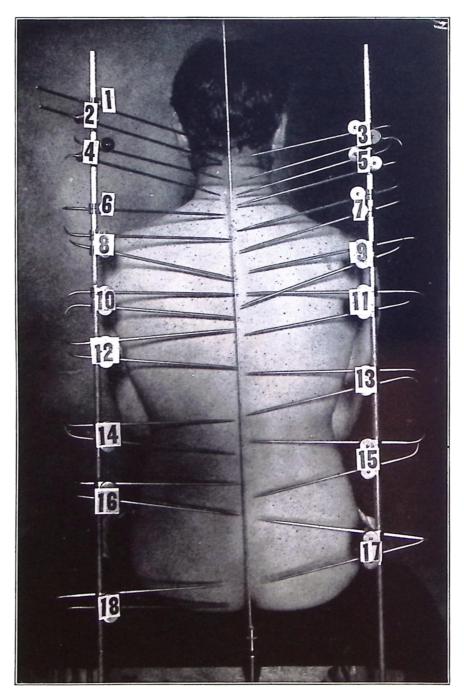


Fig. 460. Composite "Key" as described on P's 351-52.

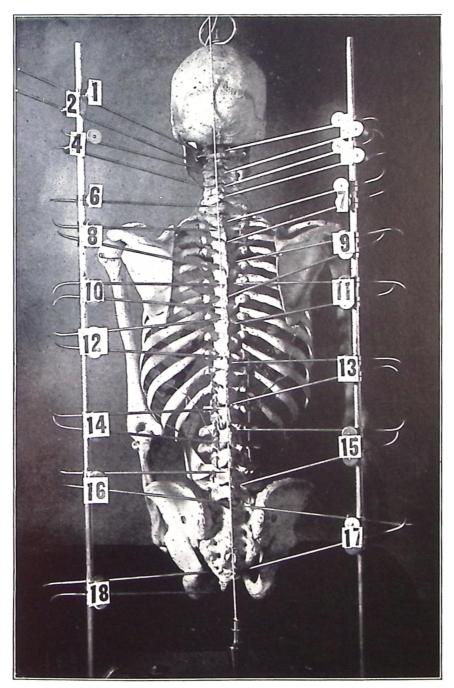


Fig. 461. Composite "Key" as described on P's 351-52.

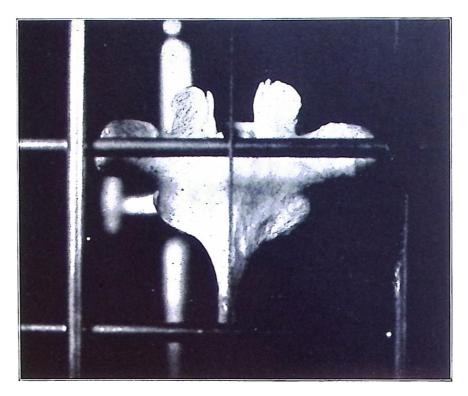


Fig. 462.

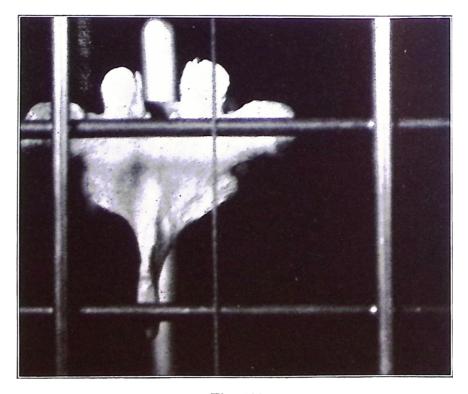


Fig. 463.



Fig. 464.

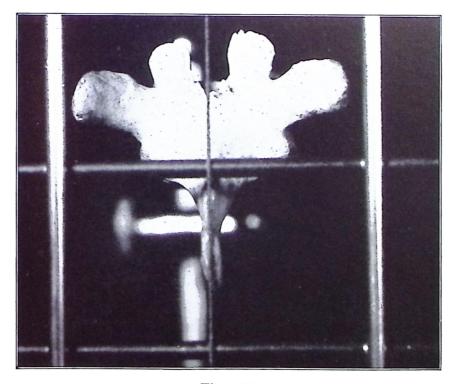


Fig. 465.

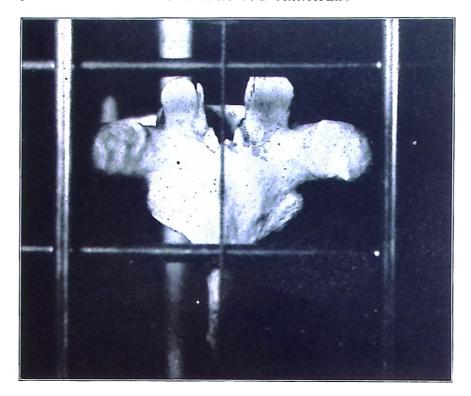
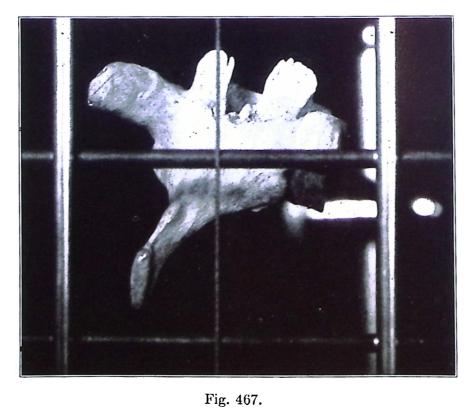


Fig. 466.



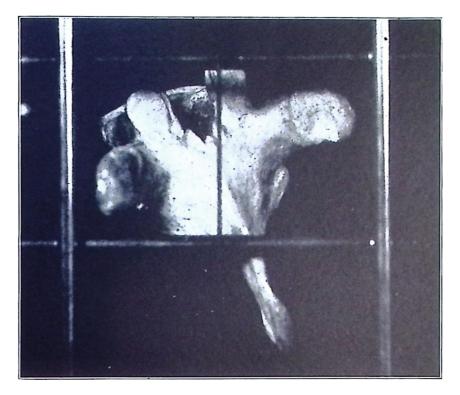


Fig. 468.



Fig. 469.

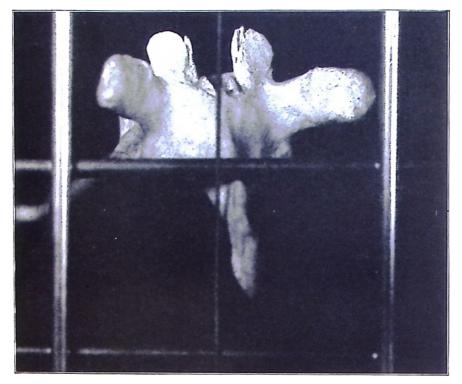


Fig. 470.

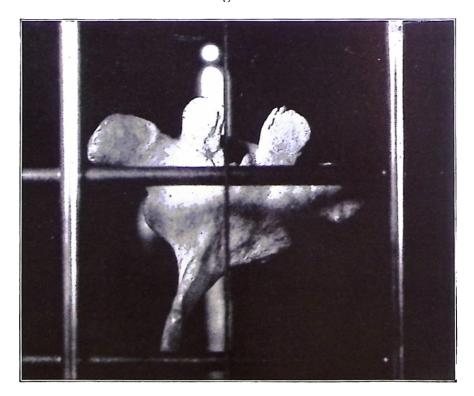


Fig. 471.

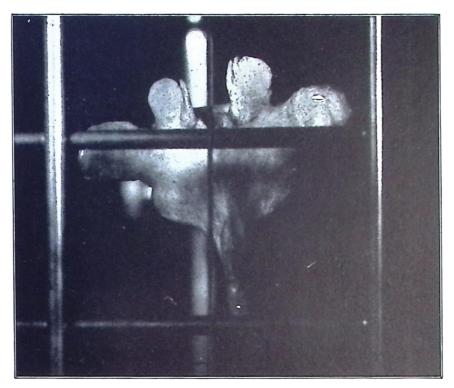


Fig. 472.



Fig. 473.

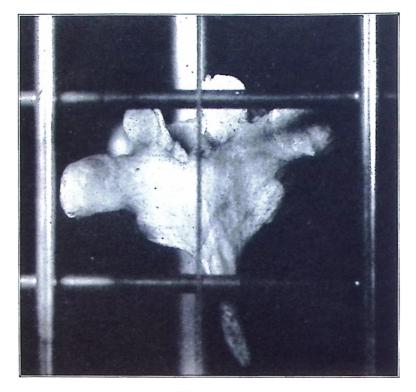


Fig. 474.

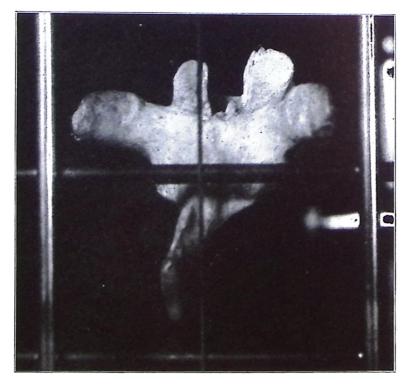


Fig. 475.



Fig. 476.



Fig. 477.

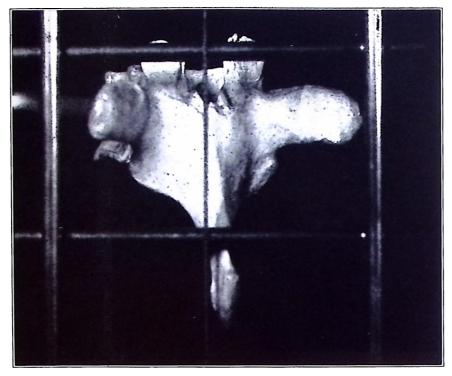


Fig. 478.

Fig. 471. Spinous process *left*. Left transverse superior. Right transverse normal.

Fig. 472. Spinous process *right*. Left transverse normal. Right transverse superior.

Fig. 473. Spinous process *left inferior*. Left transverse slightly below normal. Right transverse inferior.

Fig. 474. Spinous process right inferior. Left transverse inferior. Right process slightly below normal.

Fig. 475. Spinous process *left superior*. Left transverse superior anterior. Right transverse posterior superior.

Fig. 476. Spinous process *right superior*. Left transverse posterior. Right transverse superior anterior.

Fig. 477. Spinous process left inferior. Left transverse inferior anterior. Right transverse inferior posterior.

Fig. 478. Spinous process *right inferior*. Left transverse inferior posterior. Right transverse inferior anterior.

The manner of procedure is undoubtedly new to her, therefore fear is her uppermost thought. To have her present means that she will continually repeat, "Now don't press so hard, you will break my baby's back," etc. All are points upon which you do not want nor need dictation. What the mother does not see cannot hurt her. The adjustment given to the child makes the mother suffer more than the child.

The spinous process in children's subluxations are usually pointed out and referred to by parents and medical advisers as normal. Early correction will avoid future years of discomfort and suffering. All good things can be overdone. As with the Indian, who remarked, "Negro like bread black, white man want it like dough, Indian he want it done just right-done brown." So in adjusting there is a happy medium upon which the best results can be secured. This is determined by a good training, proper Chiropractic education, good judgment and knowledge in observing your patient.

Where excessive heat is involved, the object is to have this reduced by your adjustment; once each day has been determined as the best result given; in some extreme acute cases 2 or 3 times may be permitted, providing a period of 6 hours elapse between. Usually in chronic conditions more than once each day intensifies, creates more heat and makes worse what you are aiming to make better.

10. How to give adjustments correctly.

As each adjustment is given daily, see to it that it "goes" the first time, do not get into the damaging habit of punching 2, 3 or 4 times in succession without knowing something has been accomplished. If there is any one habit that is more dangerous and damaging to your success and the patient's welfare than others, it is giving the 2d or 3d punch on top of the first, in order to try and get the vertebra to move; you but wedge the vertebra in its abnormal position that much tighter and increase the quantity of heat, and consequent damages are more noticeable.

Adjust it right first and then let it rest.

11. What means, and portions thereof, to use.

This has been thoroly carried and elaborated under several vertebrae previously. I believe in brevity where possible. Give a valuable idea and knowledge with few words.

12. What diseases to adjust the third dorsal for.

The diseases to adjust the 3d Dorsal for would not greatly vary from those enumerated under 2d Dorsal. As a general rule we can maintain that each nerve or pair thereof as they leave the spine have a certain prescribed transverse section over which their functions are conveyed.

The diseases would be of heart, upper lungs or lower bronchial tubes, including asthma. Pectoral or superior back region in any of the many diseases which frequent these areas. In one reported case decided results were noticed in deafness from adjustments at this region. This is rare, but worthy of mention, for it is the freaks that make failures unless we prove to be informed.

CHAPTER XXII. 4TH DORSAL.



Fig. 479.

- 1. Vertebra and its title. Lu. P. or U. Li. P.
- 2. Superficial palpation and landmarks.

In palpating tender nerves it is rare to realize that "sensations pass up a nerve." The "feel" may be of that character, but remember that impressions (whether normal or abnormal interpretations, as in pain) are but the mental interpretation of normal or abnormal physical conditions.

The spines of the scapulae can be felt thru the skin, and when the arms are crossed upon the chest they correspond to the level of the 4th Dorsal spine and ascend outwardly to the point of the shoulders.

The fourth Dorsal spine indicates the position of the base of the heart. With a vertebral column in hand you will observe that the posterior prominent features are the spinous and transverse process. The latter vary in their location in comparison with the spinous process of the same vertebra. The only palpating points for these are Atlas, 1st Dorsal to 10th Dorsal and 1st Lumbar to 4th, inclusive.

The 11th and 12th Dorsals usually have minor transverses. The 5th Lumbar is usually well crowded upon the alae of the sacrum.

Palpate thru muscles lying in each lateral groove and slightly anterior to them will be found the transverse processes.

In the dorsal they will be found lateral and slightly superior to the spinous.

3. Normal position and articulations.

While the spinous process is reliable in determining the position of that vertebra it is by a no means uncommon condition to find vertebrae with bent spinous processes. This might be due to direct blows or falls.

To know definitely that such is the case find both transverse processes of *that vertebra* and compare with the spinous process. This will determine accurately the fact.

4. Subluxations described and illustrated.

This has been carried. The nearer the 12th Dorsal is reached the greater is the liability to subluxations.

- 5. Relative position of adjacent vertebrae.
- 7. How and what makes pressure.

Have been carried.

8. Functions and organs involved.—Location of—
There being 9 primary functions in a human body it can be readily seen how, if these were placed at any specific locality there might exist any combination of abnormal functions in that region. Fourth dorsal foramina is primarily the gateway of functions going to the lungs, chest, muscles and ribs. If the brain nerves going to these tissues are impigned with one or more functions it can be readily seen that any kind of a disease would and could exist at their peripheral. The superficial posterior region is, as a rule, regulated by the impulses expressed, which come from vertebrae higher. Immediately following subluxation there is pressure upon fibres and disturbance of impulses, to a greater or lesser degree, follows.

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

Each one of the 9 lobes is creating a special function. Among the cables going out from these lobes will be one particular one which goes down to one particular cell. Each one of these fibres is transmitting a particular character of impulse from the brain lobe to the tissue cell. We have, in other words, nine primary functions having expression, or being worked out in this cell at any one particular moment.

Let us consider further that each one of these fibres is transmitting 100 per cent of impulses to a tissue cell within a given time, which will mean a total of 900 per cent of impulses coming to this tissue cell.

Suppose we make up this combination:

2—20	per	centNo.	5—5
3—32	per	centNo.	6—18

There we have a disease known as so-and-so—call it what you will.

Or, we have

1—18 per	cent	No. 5—78
----------	------	----------

The product of the shutting off of this degree of currents means any name corresponding to a combination of conditions that will exist in that tissue cell. Now, I think with this idea before our minds, and with the endless possibilities that can exist there, it would really take a Burrough's Adding Machine, working to the end of time, to keep up with the possibilities of combinations in degrees and fractions of degrees that undoubtedly do exist in the human body, so referring to this sentence again, let us read: "There being nine primary functions in the human body," etc.

We are all living at our own rates of speed: one person lives at a 10 per cent rate, another at 90 per cent, etc., etc. Some people can do as much in one hour as another person can do in six, etc. Man is but a machine expressing certain energies—power created to express what he wants it to. Now we find that this is a fact when a man is normal.

As remarked before, we all have our own rate of speed. This is true of the abnormal as well as normal. The normal man is a man of action, energy and vitality—doing things "now." The abnormal man takes his time, according to how much he is abnormal. The man who does not feel well does not do much and is always tired.

Your stomach works fast if it is normal and if it is not it works slow. When you are sick you complain because the part that is sick is not working as well or as fast as it should—question of speed, that's all. When a man begins going down hill he goes at a certain rate of speed. Here, again, the idea of momentum comes into expression in the human body as with a machine.

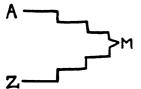
A patient comes to you, saying: "Six years ago I felt fine, but now I am going down hill all the time." He further says: "Now, doctor, I want to get well; I want you to turn on power and do it right away; I want to be well tomorrow; use your adjustment." You wouldn't expect to do that with a machine—neither can you do it with the human body. Go to the electrician who controls the machines that are making up electricity and sending it out over wires. His machine is running at a rate of 16,000 revolutions per minute. A man comes along and says: "Turn off the steam and shut down the dynamo, immediately." The man in charge replies: "Can't do it." "Why, just as soon as you shut off the power it stops, don't it?" "No, it doesn't-it gained a certain momentum during those revolutions—it begins to slack just as soon as the current is turned off, but it is perhaps six or eight minutes before the machine is at a standstill."

Then the electrician is told to reverse his machine and run it in the opposite direction. He turns on the full quota of power, but it runs very slowly; the first revolution turns very hard, but the next one is a little bit faster and the third one faster still, and so on until at the end of eight minutes, say, it is running at 16,000 revolutions per minute.

A patient comes to you and asks that you make him well all at once. He has been running down hill at a certain rate of speed; he will run down hill even after you have taken his case, but after the moment you have given him his first good adjustment, just that moment will the pace begin to slacken, but it may be some two, three or four weeks before you have got him at a standstill, even. Then just as soon as he reaches that point then he begins pulling the other way, but it is slow, slow—just like reversing the machine.

During the first two or three weeks he is apt to come to you and say: "Doctor, I am not getting any better; been here five weeks now and just the same as when I came; I do not think you can do anything for me; I am getting discouraged and I do not think you have anything in this I need and I guess I will go home." This man does not understand what you have to do to him before he can begin to see any benefit. So it is a good idea to explain to your patient what you are doing for him; that he will begin to build up very slowly and that it may be several weeks before he is back to normal.

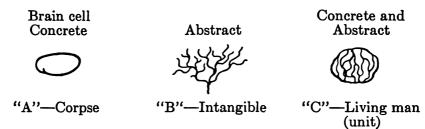
Another thing enters into this consideration. His vertebrae may not only be subluxated, they may be ankylosed as well. You have to adjust these vertebrae three or four weeks before you begin to get your first adjustment into working order. The same illustration of a buggy running down hill applies here.



"A" and "Z" represent the health limits. "M" represents the point where the slack has been taken up and progress back to health commences.

It is not uncommon in our clinic work here to have a patient tell us they have a headache, such as they have not had for six weeks or six months, etc.; or for the last two weeks I have been sick at my stomach, something which has not happened for several years, or I have been having severe pain in my right hip, a thing I have not noticed in six months. I had the same conditions six months ago, but now they are coming back; I believe I am getting worse under your adjustment.

Now, if this patient, or any other, were instructed that he is but retracing his footsteps, as it were, it would elucidate the mystery that he thinks he sees. Each adjustment takes a certain degree of pressure off, consequently we have modified conditions proportionately, restored currents in a certain degree of quality and quantity.



The cause of life is the union of the abstract and concrete—the passage of currents constantly; and the cause of disease is a partial cutting off of the current. Complete shutting off of the current is equal to the concrete alone, and that is death.

When we have two bones coming together so as to make a pressure upon a little fibre, then we have the physical representation (subluxation) of the cause of disease. Concussion of forces is cause of the subluxation.

In Illustrations "A," "B" and "C" above we have represented a brain cell, nerve fibre and tissue cell. This is purely a concrete illustration dealing with tangible things. Illustration B deals with the abstract—intangible. "C" deals with the union of the two.

With currents we have the fullest expression of life; without them we have no life; any partial expression between these two constitutes what is equivalent to disease.

Machines, like human machines, live, act and express themselves with characteristic degrees of speed. Men, like machines, put into action a regular impetus or momentum of power. This is a fact, normal or abnormal. Disease progresses with relative degrees of momentum. To expect to always immediately check the momentum of any chronic disease the first day, hour or minute is too much. It can be and is done in acute cases, but not always with the former. It may take a day, week, month or several of them to check this onward pace, then when the abnormal momentum has been stopped it will take time to create the reversed type of impetus. As first it begins slowly to pull up hill, gathering progressive power as foramina are opened and current restored, all for the betterment of man.

Even tho the power be reversed in an engine upon the tracks it will "skid" a long or short way before it comes to a standstill and then the reversed action begins. Keen insight and knowledge of the philosophical workings of man reveal the same to us.

Discouragement is paramount at and during the time of the impetus slacking. Then is when you must exert your hardest efforts to convince your patients of the injustice they do themselves. They will leave just when you have them "coming around the bend" unless you show them the facts in the case.

From that moment onward, disease progresses in a certain manner and degree, expressing peculiar individual characteristics. Countries, States and Cities show characters and are of various types, differing as so many people. When disease is as exhaustively investigated the same remains apparent. The disease in each person has certain speeds at various times with which it is destroying the usefulness of the party involved;—for instance, "A" and "Z" would be the points of health. At "A" is the time of subluxations. The various steps between "A" and "M" are the progression of the disease. I have yet to notice one case that, sooner or later, does not show these tendencies. It may take close observation to reveal them, but they are there.

"M" is the point of crisis and it is at this stage that we, as Chiropractors, will receive the majority of patients for a time at least. If you watch your patient discriminately you will notice the tendency to retrace the identical grades thru which the disease has passed. It is true one step may be more lively or active than its progressive mate was the opposite way, the fever or excessive heat will return, but instead of being fever it will be a period of increased normal heat, thus step by step our retracing proceeds and it is during these peculiar conditions that even the most thoroly posted patients will sometimes get discouraged and wish to dispense with your services. It is at this time that this explanation will come to your This applies to those cases where subluxations have made abnormal the shapes and forms of vertebrae; this may be in acute or chronic diseases, altho if our success lies in getting the acute conditions we will not

be so likely to find the above. In chronics it will hold good.

The explanation is offered that as the subluxation progresses it is gradually increasing the pressure, consequently the various gradations and colorations of diseases become more manifest. Adjustment is in the reverse order and that in proportion as it is replaced and rebuilt, pressure becomes lighter, hence the retrogression in reverse order to what it came. Exceptions to this rule would be in those acute or chronic conditions where the vertebrae are not deformed and are replaced by a few adjustments and remain, quickly returning the abnormal functions to normal without going thru the successive stages.

9. Adjustments necessary to correct each.

Chiropractic is primarily the philosohy of cause and the science and art of adjusting those vertebral subluxations which are the physical representatives of the causes of all diseases. It is not for me to state in what proportion of patients having diseases Innate corrects the cause, but thon does adapt herself to the circumstances in all cases to a greater or less degree.

The percentage of subluxations that are brot on during sleep while in frights, dreams or nightmares is undoubtedly large and the proportion of diacinemiae that are corrected during sleep is also larger than we can imagine.

We recognize many persons who retire well and wake in the morning with a headache which one Chiropractic adjustment at once will correct. Many a patient produces a crook, wrench or twist during the day, retires and wakes the following morning without it. Very evidently the complete relaxation necessary to induce sleep is sufficient to allow Innate to draw the vertebra or vertebrae to normal position. In very slight, recent subluxations this is a demonstrated fact, but it is in the more severe types that Chiropractors are called to adjust, for they are obstacles that Innate cannot overcome. Many instances have been brot to my notice of cases who have been injured, diseases produced, and causes corrected by accidental means. One peculiar fact is that the accidental adjustment will accomplish more with one violent move, taking one movement, than we can with the philosophy and art of days or weeks of time. Why? See article on "Recoil."

10. How to give adjustments correctly.

The position of the patient on the adjusting table has much to do with the success in replacing subluxations. There is one median place on the chest for placing the body on the rear portion of the superior table.

It would not be on the breasts nor low on the sternum, but at the junction or a trifle below where the manubrium joins with the clavicles. This gives good support and retains the thorax on the table in adjusting lower vertebrae and gives a solid base for upper dorsal adjustments.

11. What means, and portions thereof, to use.

In giving adjustments relaxation is the main object. It may be necessary to divert your patient's attention upon other things than what you are going to do. Ask, "How old are you?" "When is your birthday?" or have the patient draw in a deep breath and let it out quickly, and many similar questions or actions can be asked for and the moment of answer is your psychical time. At all times, tho, you must watch the patient carefully so as not to attempt adjustments while he is braced or contracted, as you will then but make things worse.

12. What diseases to adjust this 4th Dorsal for.

Pneumonia, Pleurisy, Empyema, Emphysema and Consumption, Rheumatism of chest muscles and upper posterior back superficial region or any other disease of the upper chest or back. Vol. IV goes into thoro detail on this subject.

CHAPTER XXIII. 5TH DORSAL.



Fig. 480.

- 1. Vertebra and its title. Li. P. or C. P.
- 2. Superficial palpation and landmarks.

Comparison is but the consideration together of two or more objects. Superficial or deep vertebral palpation is the comparison of relative positions of two or more vertebrae at one time. To consider one vertebra without its relative positions of parts above or below would be incomplete and very inaccurate. To know that one building is higher than another is but to compare them with one or more of the senses with each other. In spinal examinations the first, second and third fingers should be always used together so that when "running a spine" the second finger can feel and be on the process (see Illus. 603), while the first and third are in spaces above or below. After determining, in this manner, whether superior or inferior, use the same methods on either side

of the column to approximate positions laterally. (See Illus. 604 and 612.) This will be accurate work thru comparison. The combination of superior or inferior joined with right or left lateral and the knowledge that all are posterior quickly shows the position and direction of adjustment.

- 3. Normal position and articulations.
- 4. Subluxations, described and illustrated.
- 5. Relative positions of adjacent vertebrae.

Answered in point two.

- 6. Where nerves are impinged.
- 7. How and what makes pressures.
- 8. Functions and organs involved. Location of—
 To the right of this vertebra is located approximately
 the center of the liver. The nerves going to that organ
 will be found issuing upon that side and may vary
 slightly in the position of the vertebra in being one above
 or below this number. It will be well to also remember
 in this connection that the gall bladder is reached from
 here.
 - 9. Adjustments necessary to correct each.

The general principles previously explained and illustrated are applicable here.

10. How to give adjustments correctly.

Suppose two or more spinous processes were very closely approximated, making an acute kyphosis. What adjustment would be given?

In such an instance one or two spinous processes placed apart from each other would be *posterior* to the others of that bend. It is from these that you must palpate, study positions and adjust according to your analysis. Unless the case be a severe one the approximation and posteriority determines the adjustment, regardless of how many may be together.

How many cervical, dorsal or lumbar are we justified in adjusting in one region each day? While the student knowing his goods is anxious to have the patient up and doing, his over anxiety often leads him into serious predicaments due to damage or failures, the result of his over ambition to push Innate. Your sole and only aim is to restore functions, not to create function, not to create or push.

Do not overdo. Better underdo than do too much. The student may be justified in adjusting one vertebra where two vertebrae approximate each other, but more than this will spoil the individual adjustment delivered above. When you realize that vertebrae revolve and flex upon joints and each one is a unit you can know when two or more successive ones are adjusted serially that you destroy the value of the position of the vertebrae above which you have just replaced.

Close palpation will reveal one or the other as being slightly more posterior than the other and that is the one you must work with. The atlas, fourth and sixth cervical vertebrae might be adjusted one at a time, more than that would not be justifiable. The dorsal adjustment would vary, according to the diseases of the individual, but never closer than every other vertebra. The closer you adjust, the less results will be ultimately manifested.

- 11. What means and portions thereof to use.
- 12. What diseases to adjust the 5th dorsal for.

Abscesses, acute or chronic, excessive heat, hydatid tumors of, liver spots, etc., and other excessive heat; hemiphelgia, either side general debility or what is called "nervous prostration," "nervous asthenia," etc., also types of general interference with serous tissues as would be found in anasarca and seroedoema; this is, of course, in combination with K. P. subluxation. Vol. 4. Causes Localized takes this phase of the work thoroly.

CHAPTER XXIV. 6TH DORSAL.

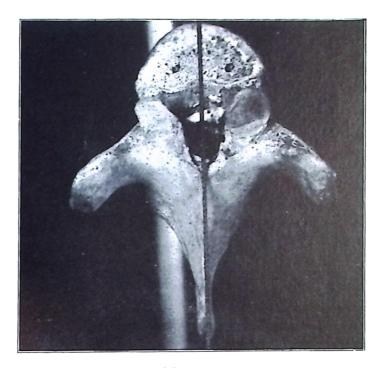


Fig. 481.

1. Vertebra and its title. C. P. or S. P.

According to the arrangement of localizing the back into zones, 5-6 are C. P. and 5-6-7 are S. P. Therefore if the nerves during embryonic life are differently segregated, the 6th dorsal might be a lower C. P., upper S. P. or S. P. proper. These are points that are determined by palpation, tracing nerves and your analysis.

2. Superficial palpation and landmarks.

Aside from counting downward, there is no exact method of locating this vertebra. It has no relationship to any other, as regards its landmarks, unless you compare the 4th Dorsal spine as given in a previous chapter, and count downward. In general spinal constructions the body much be watched to compare the relative lengths of different persons. One spine may be 30, 32 or 33 inches in length. Proportionately this may have grown

faster, but nevertheless it may be a fooler unless you reckon with the added length in your approximation of regions.

- 3. Normal position and articulations.
- 4. Subluxations described and illustrated.
- 5. Relative position of adjacent vertebrae.
- 6. Where nerves are impinged.
- 7. How and what makes pressures.
- 8. Functions and organs involved. Locations of.

With this vertebra (S. P.) we have a peculiarity. Upon the right side fibres branch that can be traced under right scapula, axilla and in front of chest up to head, throat and neck regions.

Oftentimes tracings may lead perpendicularly after leaving the foramina and run directly upward to the throat. This location insluces all functions of all organs in alimentary tract from lips to small intestines. Upon the right taking from the lips to cardiac orifice of stomach, upon the left taking the balance of this tract. The functions would be general and similar to those portrayed at length before.

9. Adjustments necessary to correct each.

The nearer we reach the center of the spinal column, from end to end, superior apex to inferior base, the easier is the giving of adjustments. The vertebrae are less tightly wedged, more free and less force need be utilized.



Fig. 482.

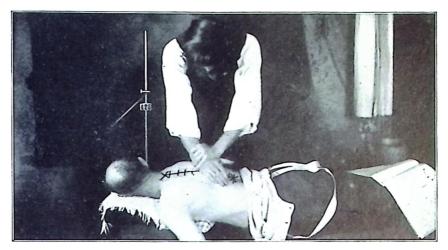


Fig. 483.

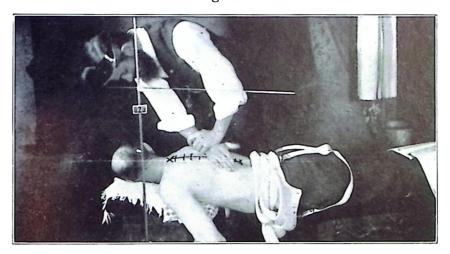


Fig. 484.



Fig. 485.



Fig. 486.

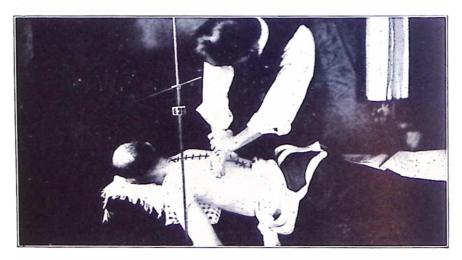


Fig. 487.



Fig. 488.



Fig. 489.



Fig. 490.



Fig. 491.

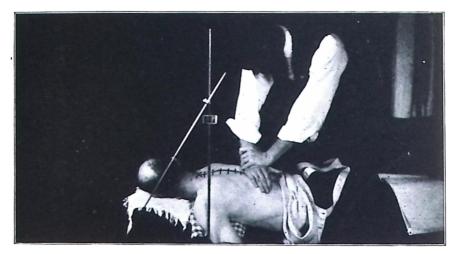


Fig. 492.

Fig. 482. Left subluxation and its adjustment of 6th dorsal to right.

Fig. 483. Right subluxation of 6th dorsal and its adjustment to the left.

Fig. 484. Superior subluxation of 6th dorsal and its adjustment to inferior.

Fig. 485. *Inferior* subluxation of 6th dorsal and its adjustment to *superior*.

Fig. 486. Left superior subluxation of 6th dorsal and its adjustment to right inferior.

Fig. 487. Left inferior subluxation of 6th dorsal and its adjustment to right superior.

Fig. 488. Right superior subluxation of 6th dorsal and its adjustment to left inferior.

Fig. 489. Right inferior subluxation of 6th dorsal and its adjustment to left superior.

Fig. 490. Posterior subluxation of 6th dorsal and its adjustment to anterior.

Fig. 491. Posterior superior subluxation of 6th dorsal and its adjustment to anterior inferior.

Fig. 492. Posterior inferior subluxation of 6th dorsal and its adjustment to anterior superior.

- 10. How to give adjustments correctly.
- 11. What means, and portions thereof, to use.
- 12. What diseases to adjust the sixth dorsal for.

Goiters, affections of eyeball, diseases of throat, including pharynx, larynx and oesophagus, would be adjusted by throwing vertebra to right. Hemiplegia of one side or its opposite.

All stomach diseases, as indigestion, dyspepsia, tumors, cancers, etc., adjusted to left. Variations will be met with where individuals may have nerves impinged on one side or the other; hence, only that side would be normal. If the patient have throat and stomach troubles, both at one time, then the adjustment would be squarely anterior and superior or inferior, as the subluxation would demand.

CHAPTER XXV. 7TH DORSAL.

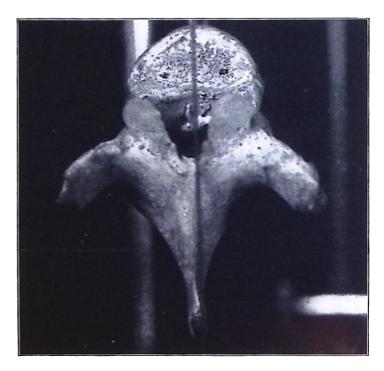


Fig. 493.

1. Vertebra and its title, S. P. or Spl. P.

According to localization 5-6-7 are S. P. and 7-8-9 are Spleen P., giving the 7th dorsal a lower S. P. or upper Spl. P.

2. Superficial palpation and landmarks.

The inferior angles of the scapulae, when the arms are folded on chest, are on a level with the spinous process of this vertebra. (See Fig. 494.)

3. Normal position and articulations.

To Osteopaths it sounds queer to notice the absence of anything pertaining to subluxations of ribs upon their articulations with the vertebrae.

The Chiropractor does not deny that such conditions do exist and are found, but he goes farther by proving that subluxated ribs are an effect similar to a dislocated head of the femur due to contractured muscles induced by subluxation of a lumbar vertebra producing pressures upon nerves. It is not within the province of the Chiropractor to treat effects. The symptoms that follow the subluxated rib are all effects of one common vertebral subluxation.

The force that caused the spinal abnormality was sufficient to twist it from normal, hence its abnormal position and thus is equivalent to changing other surfaces with which it is in contact. The two central articulations would not be in situation, neither would be the zygapophyses, nor transverse articulations. To try and

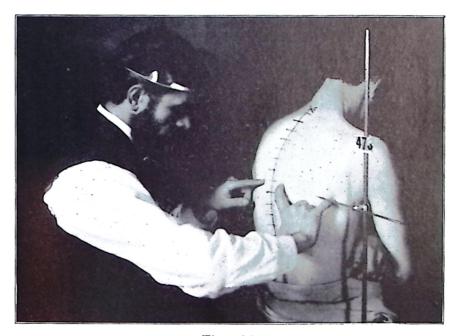


Fig. 494.

correct the costal articulations to normal would mean to attempt to work on symptoms. Replacing the vertebra (when intelligently done) sets all articulations in proper position. The aches and pains that the Osteopath supposes comes from the subluxated rib are missing as soon as the subluxation is corrected.

- 4. Subluxations described and illustrated.
- 5. Relative position of adjacent vertebrae.
- 6. Where nerves are impinged.
- 7. How and what makes pressures.

- 8. Functions and organs involved. Location of—
 The 7th dorsal is Spl. P., indicating the location to adjust for stomach and splenic disorders. This viscera is upon the left side and adjustment according to rules should be toward the organ diseased. As enumerated under point I, if this be located as S. P. the spleen location would be one or two vertebra lower. In every instance we have generally assigned the location to zones. If one is found lower than normal the others above or below vary in like manner.
 - 9. Adjustments necessary to correct each.
 - 10. How to give adjustments correctly.
 - 11. What means, and portions thereof, to use.
 - 12. What diseases to adjust the 7th dorsal for.

The spleen is the organ secreting splenic fluid which, when it reaches the stomach, is gastric juice, therefore performs an important function, and both must be in unity. The stomach could not maintain its position of digestion if it lacked this fluid.

It is necessary that its product be equivalent to demands, both in quantity and quality. Any function hindered in normal action would be equivalent to making the local metabolic processes abnormal. Subluxations could, would and often do interfere with one or more or any combination of functions expressed in this organ. Symptoms could be named, but briefly every abnormality of this organ has its cause at this region. For comparison of diseases listed and localized causes see Vol. 4. Causes Localized.

CHAPTER XXVI. 8TH DORSAL.

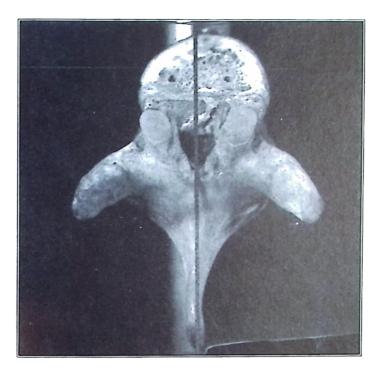


Fig. 495.

1. Vertebra and its title. Spl. P.

This 8th Dorsal gives the featural work of palpation of transverse processes. Often we are called upon to decide definitely in palpating whether a spinous process is bent or not—the term "bent spinous process" conveys to our mind the idea of a willow switch which has been bent and remains permanent. I wish to emphasize that very thought. It is not uncommon in children, where the neuropophyses are in a cartilaginous state, to be bent by a blow directed at the back, intentionally or accidentally, consequently it is displaced, as it were (a green-stick fracture produced), and the child goes thru life with that condition. It is also possible that subluxations as well as green-stick fractures have taken place. In adult life the person may or may not exist with a subluxation, but we will find the spinous process bent to one side of the median line. In these cases you should

carefully analyze conditions and compare the tips of the spinous processes with the tips of the transverse processes, as to distance. We have specimens in the studio portraying bent spinous process as well as green-stick and traumatic fractures. Fig. 496 shows us the position of the fingers. In Fig. 497 the fingers are above the transverse line, while the second finger is above the spinous processes. Fig. 498 reverses this.

Figs. 499, 500, 501, 502, 503, 504, 505, 506 all show different phases of palpating the transverse and spinous processes. This work as a whole is accurate and scientific and can be relied upon. There is, however, no work but what has its exceptions. You might have bent transverse process which would puzzle you—in all these cases you have to fall back upon your own intelligence, anyway.

This educated intelligence, but more exercising what might be termed your "promptings" in this matter. We have omitted thruout Vol. III to set down composite rules—man is the hardest fellow or thing to set down fast rules about. He is, as an individual, a freak because you can never tell what he is going to do the next minute by what he has done in the past; he is subject to great perversion of thought, altho we find it better to lay down general rules and follow when where practicable, and where not we use our "promptings."

I find a good rule to follow when I possibly can is to have my patient, as well as myself, in a receptive mood. I know that I can do much better work when I have nothing on my mind. I do not wish to advise a study of psychology or anything of that sort; it is a universal law, observable everywhere. How much good you are getting out of these statements right now depends upon the receptivity of your mind. If you become antagonized you will get no good out of it. Some people have the very happy faculty of dropping the antagonistic and entering into the receptive almost immediately, but not everyone can do that.

When you find a man that can be positive and negative at will, you find a happy combination that is well liked universally. I do not wish to broaden out on this point other than to show you the advisability of placing yourself in such a position that even the you have no exact rule for palpation to guide you in determining

whether a spinous process is behind or in front, you may reach a conclusion by means of impressions which are usually your best guide. If I knew of any rule that could be relied upon at all times I would certainly be only too glad to give it to you, but until such time as man becomes an open book, then we must depend upon our promptings to lead us thru a great many places.



Fig. 496.

Fig. 496. This set of views is to show how to palpate for transverse processes and then how to compare them with the spinous processes. Showing three fingers, one on each transverse, and third, or center one, on spinous process. Normal.

Fig. 497. Superior transverse process subluxation. Notice position of fingers are above the vertebra in question.

Fig. 498. Both transverse and spinous processes are *inferior* of the lines in question to where it should be.

Fig. 499. Right subluxation. Left transverse process inferior. Right transverse superior.



Fig. 497.



Fig. 498.

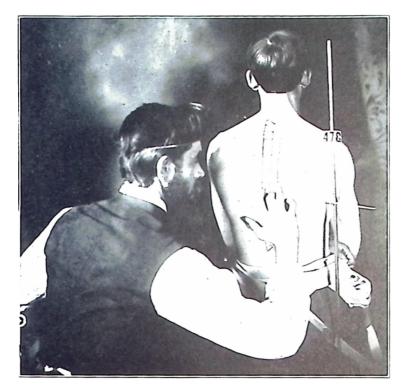


Fig. 499



Fig. 500



Fig. 501



Fig. 502



Fig. 503.



Fig. 504



Fig. 505.



Fig. 506.

Fig. 500. Left subluxation. Left transverse process superior. Right transverse inferior.

Fig. 501. *Right* subluxation. Both transverse processes to the right of their normal positions, as is indicated by comparison with normal lines.

Fig. 502. Left subluxation. The opposite of Fig. 501.

Fig. 503... Right superior subluxation. Left transverse left inferior. Right transverse right superior.

Fig. 504. Left superior subluxation. Left transverse for left and superior. Right transverse to the left and inferior.

Fig. 505. Left inferior subluxation. Left transverse left and inferior. Right transverse also left and inferior, but more so than the left transverse.

Fig. 506. Right inferior subluxation. Left transverse inferior and to right, as is also the right, altho the left is more so.

2. Superficial palpation and landmarks.

The eighth dorsal spine corresponds to the lower level of the heart and to the central tendon of the diaphragm.

3. Normal position and articulations.

Whenever adjustment is justified to be given upon transverse process in preference to the neuropophyses, remember that each projection is but a portion of the whole, therefore when one division is adjusted the balance moves with it proportionately, according to distance, anterior, posterior or laterally, from the median line. It is but a question of convenience, ease, adaptability or leverage that determines whether you shall use one in preference to the other.

The person expert in his work will most usually prefer that which is most easily formed and more definitely decided about and acted upon—the spinous process. The expenditure of power is the same upon posterior left or right transverse as upon a right or left spinous process and the risk of damage increased.

5. Relative position of adjacent vertebrae.

The spinous process is the most prominent point of the spinal column; is the most easily palpated upon; most easily adjusted, and the work that you can and will deliver at all times under palpation and adjustment is many times more correct or accurate, and even tho you have used your transverse processes as a means of analysis, and even tho you have found the spinous process bent, I would still advise you to use the latter as a means of adjustment. The spinous process is to the vertebra what the nail is to the hammer—it seems as tho it had been put there for the express purpose of being used by Chiropractors. Our observation goes to show that the most expert adjustors that we have will taboo the trans-

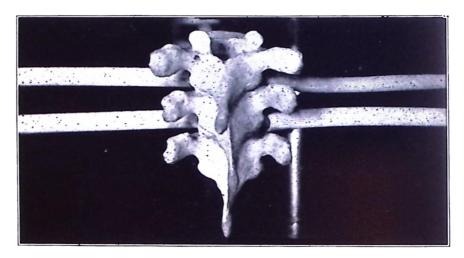


Fig. 507.

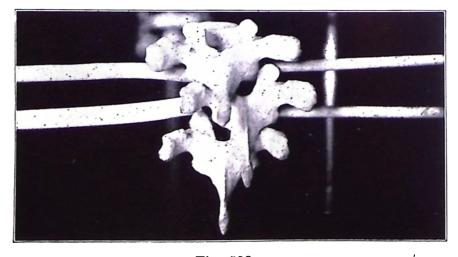


Fig. 508.

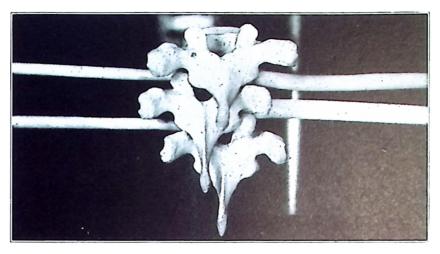


Fig. 509.

verse processes and work against exclusively from the spinous processes. I do not mean that you *must* do it, but it is better, and that is why we do not spend a great deal of time on the transverse processes.

Fig. 507. Showing four normal nerves emitting from between the vertebrae.

Fig. 508. *Right* subluxation showing pressure on left superior and left inferior.

Fig. 509. Left subluxation showing pressure on right inferior.

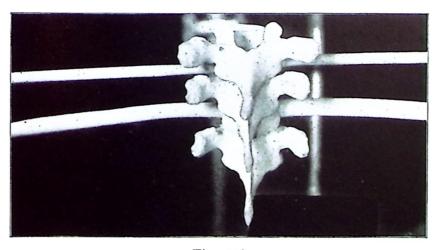


Fig. 510.

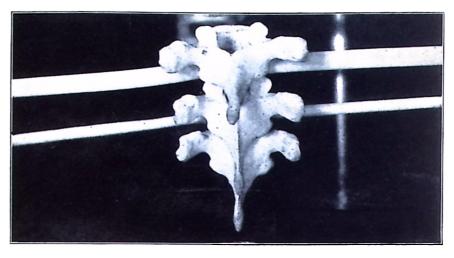


Fig. 511.

Fig. 510. Superior subluxation showing pressures on left superior and right superior.

Fig. 511. *Inferior* subluxation showing pressures on left inferior and right inferior.

Fig. 512. Left superior subluxation showing pressure on left superior.

Fig. 513. Left inferior subluxation showing pressure on left inferior.

Fig. 514. Right superior subluxation showing pressure on right superior.

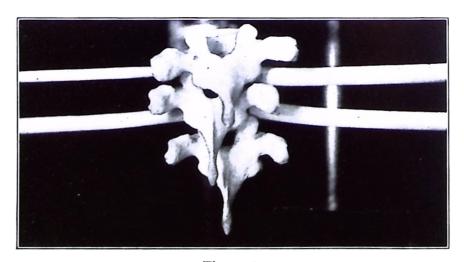


Fig. 512.

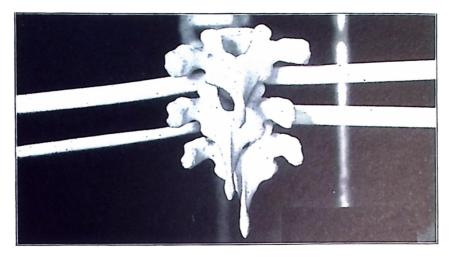


Fig. 513.

Fig. 515. Right inferior subluxation showing pressure on right inferior.

Fig. 516. Posterior subluxation showing pressure on right superior and inferior.

Fig. 517. *Posterior* superior subluxation showing pressure on superior.

Fig. 518. *Posterior* inferior subluxation showing pressure on right inferior.

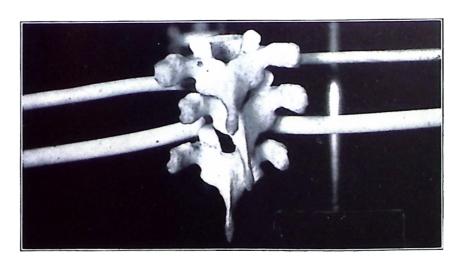


Fig. 514.

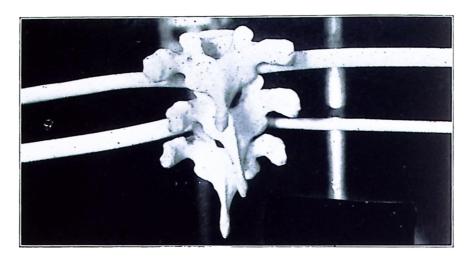


Fig. 515.

- 6. Where nerves are impinged.
- 7. How and what makes pressures.
- 8. Functions and organs involved. Location of— Upon the left would issue those nerves which ultimately reach the spleen. Upon the right, nerves issue to such organs as would be found upon a transverse section diversifying slightly above and below. Lower part of liver; lower lungs and upper part of diaphragm and perhaps a part of the stomach, altho low.
 - 9. Adjustments necessary to correct each.

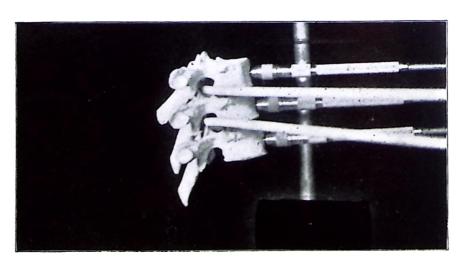


Fig. 516.

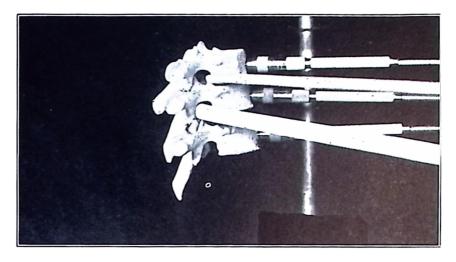


Fig. 517.

In the upper dorsal the transverse processes are slightly above the level of the spinous processes; as the latter proportionately becomes longer it slants more obliquely, therefore would be on a lower level. The transverse adjustment is given in one of these ways, viz.: laterally, superior or inferior, posterior or anterior.

This adjustment is only used in those cases where the disease is confined strictly to one side and the object utilized is to lower that side to release pressure upon those nerves. Good examples are heart trouble, or pleurisy, etc., of one lung; pains in a localized zone of the

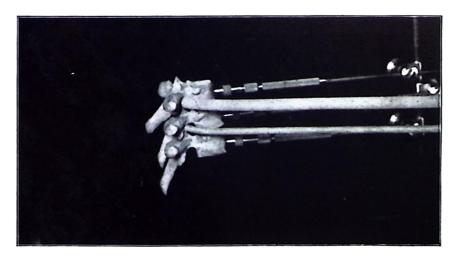


Fig. 518.



Fig. 519.

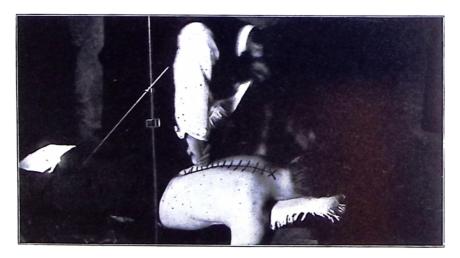


Fig. 520.



Fig. 521.

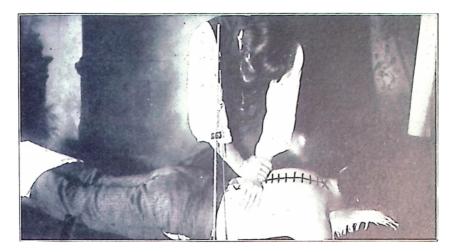


Fig. 522.



Fig. 523.

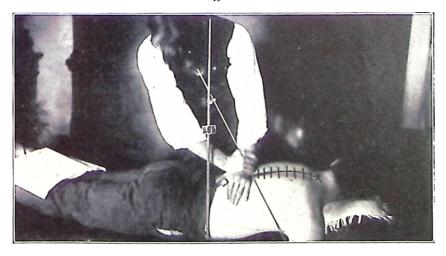


Fig. 524.

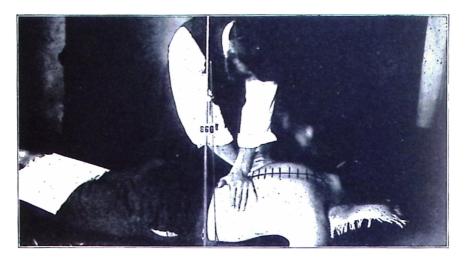


Fig. 525.

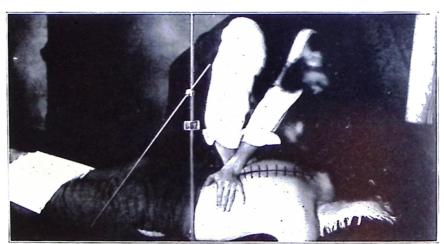


Fig. 526.

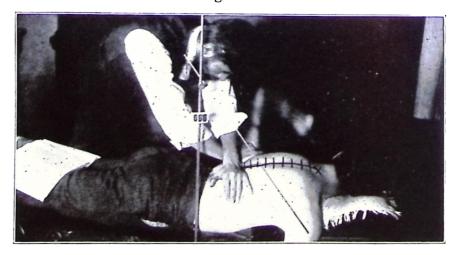


Fig. 527.



Fig. 528.



Fig. 529.



Fig. 530.

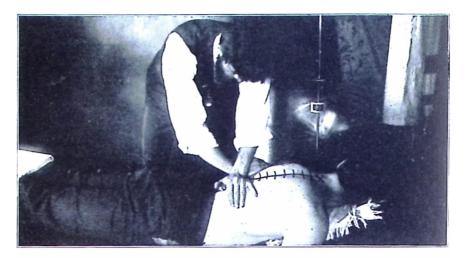


Fig. 531.



Fig. 532.



Fig. 533.



Fig. 534.

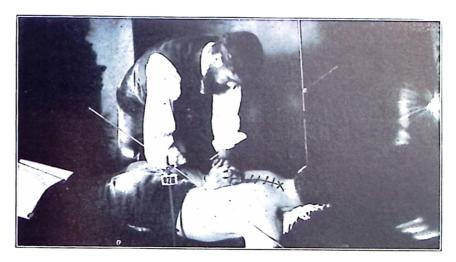


Fig. 535.

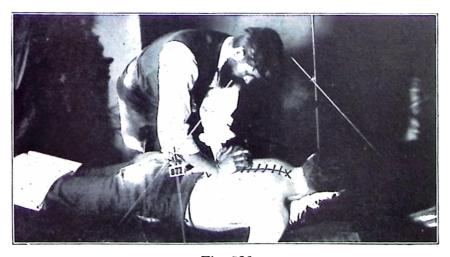


Fig. 536.

Fig. 519. Transverse adjustment. Heel of right hand on left transverse. Posterior adjustment. The direction is anterior.

Fig. 520. *Posterior superior* subluxation of the 8th dorsal. Transverse adjustment. Heel of right hand on left transverse. Direction is inferior.

Fig. 521. Posterior inferior subluxation of same vertebra. Transverse adjustment. Same parts thereof, but different direction.

Fig. 522. Heel of left hand on right transverse. Posterior subluxation.

Fig. 523. Posterior superior subluxation of 8th dorsal. Transverse adjustment. Heel of left hand on right transverse. Notice direction is anterior superior.

Fig. 525. Double transverse adjustment of posterior superior subluxation. Hands crossed. Direction is anterior inferior.

Fig. 527. Double transverse adjustment of *posterior* subluxation. Hands crossed. Direction is anterior superior.

Fig. 528. Double transverse adjustment, hands crossed. Left transverse inferior and right transverse superior.

Fig. 529. Double transverse adjustment, hands crossed. Right transverse inferior and left transverse superior.

Fig. 530. Double transverse adjustment of *right* subluxation. Both hands are to the right of where they should be in normal.

Fig. 531. Double transverse adjustment of *left* subluxation. Hands to left of where they should be in normal.

Fig. 532. Heel of left hand on left transverse and heel of right hand on right transverse. Hands locked. *Posterior* subluxation.

Fig. 533. Heel to left hand on left transverse, heel of right hand on right transverse. Hands locked. *Posterior superior* subluxation.

Fig. 534. Heel of left hand on left transverse, heel of right on right transverse. Hands locked. *Posterior inferior* subluxation.

Fig. 535. Heel of *left* hand on left transverse, heel of *right* hand on right transverse. Hands locked. Left transverse superior, right transverse inferior. The hands working in contrary directions.

Fig. 536. Heel of *left* hand on left transverse, heel of *right* hand on right transverse. Hands locked. Right transverse superior, left transverse inferior. The hands working in contrary directions.

thoracic or pelvic cavities, or lower limbs. This movement is more effective in the upper dorsal and lower three lumbar. It is almost impossible in cervical with the exception of atlas. If the pressure be upon the superior foramina of an inferior posterior subluxation of vertebra then the direction would be superior on right or left transverse, according to which side the distress was upon. If a certain spinous process is much out of line, the object should be to adjust that first. If greater leverage is wanted, resorting to the transverse process if the former does not move. In adjusting superior the same positions of hands are used, viz., the heel, in getting inferiorly to the process and making the movement forward and superior. If it is superior and is wanted vice versa, reverse the position, placing the hand above the process.

10. How to give adjustments correctly.

I prefer the use of the spinous process and if properly understood and knowingly used, as good or better results can be obtained with it.

This adjustment can be very aptly used where torsion exists in many forms of curvatures. Oftentimes in scoliosis and rotatory conditions the transverse will be as much or more prominent than the spinous is in normal conditions.

Where it is desirous or advantageous to use the transverse, bear in mind the same basic principles as would be utilized with the spinous process, with the exception that where a left movement of spinous is required an anterior or transverse gains the same end.

Fig. 519. Is normal, showing the spinous process situated within the median line. The transverse processes are shown to be on a horizontal median line.

Fig. 520. Posterior superior subluxation. The posterior is the one from which all work must be accomplished. In this illustration the right is posterior and superior, therefore is to the rear of the median line, which should be at a horizontal right angle to the perpendicular median horizontal line. The adjustment would be upon either or both sides, placing the transverse anterior; working upon its pivotal articulations would lower both.

Fig. 521. Posterior inferior subluxation. Would be the reverse of Fig. 520, the adjustment being given with the opposite hand on the opposite side.

The movement in either of these cases should be directly anterior.

Fig. 522. Posterior subluxation. In this case, personally, I prefer the spinous process for the direct and specific work, but if the transverse is desired it should be used with left hand on right transverse. The different ways in which the hands can be placed is almost endless, but in this instance the force should be given anterior. The P. S. C. has, in years past, discovered, used, taught and discarded dozens of various transverse as well as other adjustments, all because the spinous was in the long run the most direct, specific and simple.

Complexity is often desired by students who cannot learn the value of simplicity.

The value of complexed subjects is just so much as it mystifies the listener, for under all multiplied ideas is a fundamental principle which is simple to the deep, logical student. The higher the elevation a man reaches in intelligence, the more simple are his habits and actions.

Fig. 526. Posterior subluxation. The points of advice in this case are diametrical to the foregoing and can be considered in the adjustment, as in the use of both hands. The spinous process would be adjusted inferiorly of the double transverse accordingly.

Fig. 533. Posterior superior subluxation. The left transverse is here the reverse of the former, viz., posterior and inferior, the adjustment being given in an anterior and superior direction upon that side only.

Fig. 534. Posterior inferior subluxation. According to diagram the right transverse would be posterior,

the adjustment being given upon this promontory in an anterior direction; this movement would bring to normal position as opposite.

11. What means, and portions thereof, to use.

The heel of the hand is used in the same manner as portrayed under the adjustment of spinous processes. The left hand is the nail of the right side and vice versa, aiming not to overlap the fingers of the fixed hand over the spinous processes of the adjoining vertebrae. Palpation is the same, with three fingers running down just lateral to the vertebral groove. More deeply imbedded processes require more thoro palpation to discern them. Comparison by the rule of 3 is as important here as anywhere else.

12. What diseases to adjust 8th dorsal for.

Enlarge spleen, splenitis, calculi of the spleen catarrh of; lack or excess of its secretions; cancer of; tumor of; etc. All of these as a general rule have the point of emergence of nerves upon the left side. Those emitting upon the right side sometimes go to throat and can be traced to that region, but usually controlling the functions of pancreas upon that side and also involve such tissues as would be in that circular section.

CHAPTER XXVII. 9TH DORSAL.

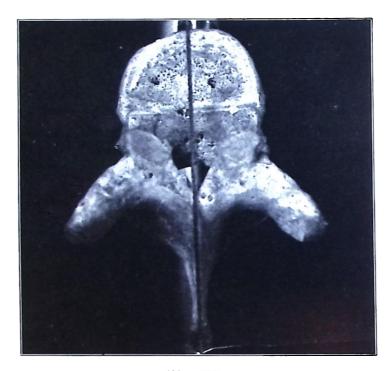


Fig 537.

1. Vertebra and its title. Spl. P.

It will be noticed thruout the designation of titles that they refer mostly to the meric divisional features; for instance, the dorsals refer principally to the viscemers in their locations, and much the same is true of the lumbar.

2. Superficial palpation and landmarks.

In these regions the dorsal and superior lumbar palpation is an easy matter, especially for the neuropophyses, the not so in fleshy persons. Ordinarily in the especially lean the transverses show up extra work, but since they are more anterior and places deeper, palpation is necessarily harder than of the spinous.

3. Normal position and articulations.

This vertebra has a costal facet on its pedicle above, but is without any on its centrum below.

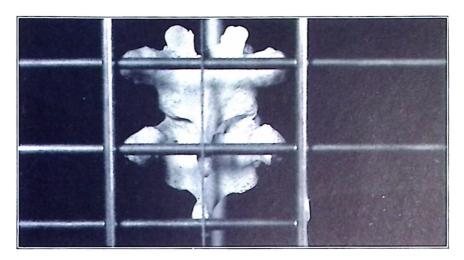


Fig. 538.

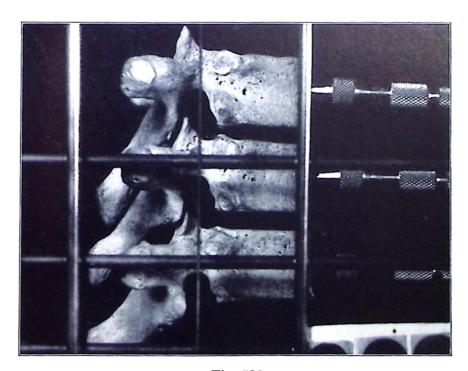


Fig. 539.

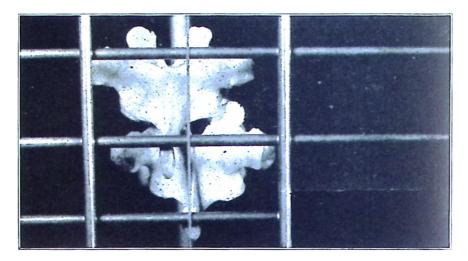


Fig. 540.



Fig. 541.

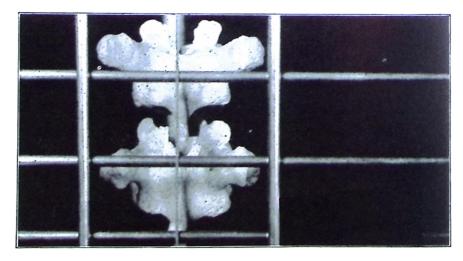


Fig. 542.

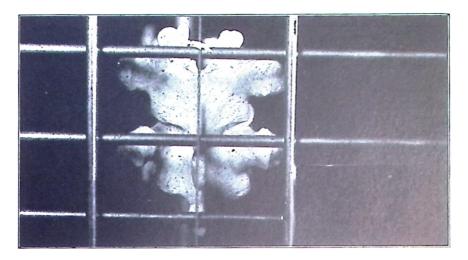


Fig. 543.

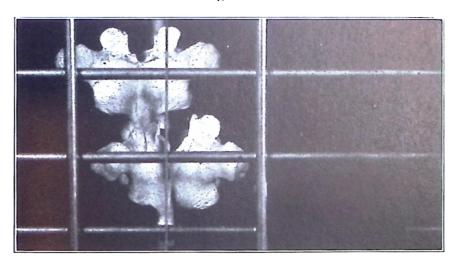


Fig. 544.

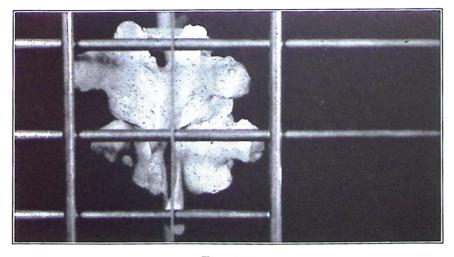


Fig. 545.

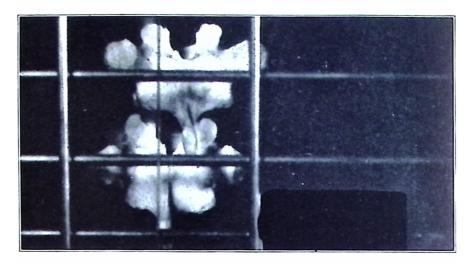


Fig. 546.



Fig. 547.

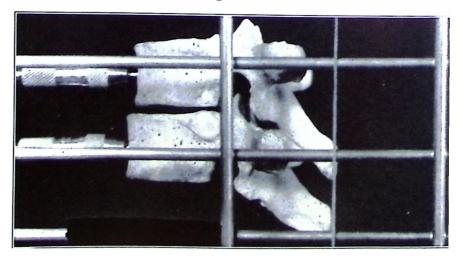


Fig. 548.

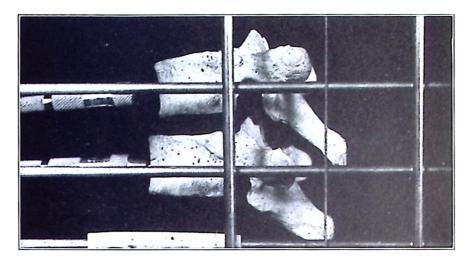


Fig. 549.

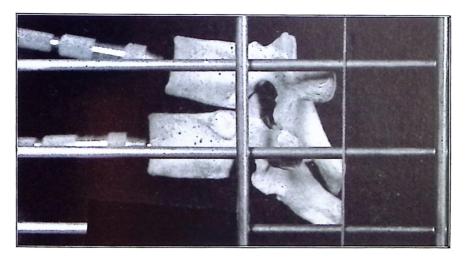


Fig. §50.

Fig. 538. *Posterior* view of 9th and 10th dorsal. The square has been made for comparison of spaces and positions.

Fig. 539. Right lateral of 8th, 9th and 10th dorsal.

Fig. 540. Left subluxation of 9th dorsal.

Fig. 541. Right subluxation of 9th dorsal. Posterior view.

Fig. 542. Superior subluxation of 9th dorsal. Posterior view.

Fig. 543. Inferior subluxation of 9th dorsal. Posterior view.

Fig. 544. Left superior subluxation of 9th dorsal. Posterior view.

Fig. 545. Left inferior subluxation of 9th dorsal. Posterior view.

Fig. 546. Right superior subluxation of 9th dorsal. Posterior view.

Fig. 547. Right inferior subluxation of 9th dorsal. Posterior view.

Fig. 548. *Posterior* subluxation of 9th dorsal. Left lateral view.

Fig. 549. Posterior superior of 9th dorsal. Left lateral view.

Fig. 550. Posterior inferior subluxation of 9th dorsal. Left lateral view.

- 5. Relative position of adjacent vertebrae.
- 6. Where nerves are impinged.
- 7. How and what makes pressures.
- 8. Functions and organs involved. Location of.

The functions would be such as are of those organs in this zone, remembering that each of the viscera has its distinct general function such as no other processes. It will be this, in combination with more or less of the usual 7, that will be excessive or lacking that will be noticeable.

The combinations of these would be endless, althouhle location of the cause is specific and direct.

How to determine which man or woman will or which individual cannot get well is a paramount question for Chiropractors to determine. At best an exact answer cannot be given. We can approximate as exactly as the machinist with his engine. A machine is out of order. The machinist is called and your first question is, "Will it pay to fix that machine?" He will answer "Yes" or "No." He considers several phases before replying. 1st, the age of the machine; 2d, how much it is out of repair; 3d, have we enough power to run the machine once it is put in order. To accomplish this latter choice he goes to the boiler and observes its gauge, thus knowing how much power is in reserve. He approximates that certain machines need an equivalent amount of power.

If that amount of energy is stored up in reserve and is there to be utilized if it can get thru for the purpose of repair as well as running the machine then he advises you, with all candor and sincerity, it will pay to fix the machine.

This analogy applies well to the work you are daily called upon to observe and deal with. "Will it pay to get this person well?" The three self-same thots arise here as before. 1st, you must consider the age of your patient. 2d, how badly it is out of repair; and 3d, have we enough power to repair as well as run the human body once it is put in order?

The 1st you can estimate upon the same basis as we shall for the 2d and 3d. You will observe that I am emphasizing a close observation of the quantity of power with which you will be called upon to deal with.

Some people are young at 80 and others are old at 30. Why? Only in the lack of normal current supply equivalent to age. I maintain that every individual should be as active at 80, 90, or 100 as at 30 or 40, because the current supply should remain the same for the number of tissue cells to be supplied are the same, or at least should be, if normal. If the number of cells are reduced then a cause can be found for that. The only death is that of a lack of new cells to replace the old. In this state the germical vesicles are being depleted. (See Volume II, Embryology.) "Old age" is the only death that will occur when Chiropractic adjustments are used (excepting traumatic deaths).

2d. How badly the machine may be out of order is immaterial to a Chiropractor, considering that the internal amount of power is unlimited; therefore the reparative processes will be likewise if transmitted to the place where they are needed. No task has been too large for Innate to tackle provided she could but have the opportunity for acting. No task has taken long if sufficient force was directed to it. Therefore some of the worst cases get well the quickest and some of the mildest cases take longest. What then is the determining factor that considers time, ability, speed, and quantity of function in substance? Unlimited creation—unhindered transmission means liberty in action.

To answer the questions, "Will it pay me to take adjustments at this age?" "Is my machine worth repairing?" "Can I be fixed?" "Is not my spine too badly twisted to be corrected?" is to consider the above three primary factors practically applied. It involves the study of how much power is created; we will do the rest.

To be as accurate with your patient, do not let your opinions be based by the state of the spinal subluxations. Those are obstacles quickly removed if Innate so wills it. The patient will want you to examine his spine and then tell him what you think can be done. This you can do better before having seen his spine than after. Why? Study his Innate actions. Observe the actions of his Innate Intelligence. See whether his actions—that are normal are performed with a vim, full of vivacity, and whether their emphasis denotes and expresses a determination. Watch what his Innate does while his Educated does not know it. His Educated may be slow in action, altho his Innate rapid. You cannot judge the curative properties by his Educated movements. Learn to discriminate between the two. You are much inclined to mistake the one for the other and thus drop into a pitfall. While you are holding conversation with this patient, study his "involuntary" or Innate voluntary actions. These are what will let you into the secret of whether this is one of the cases that will or will not get If there is a "get up" there then power is in re-You will know that the machine is worth fixing because he has power ready to enter into the engine as soon as the avenues are free for that purpose; then they are willing to perform all of the duties that need to be Innate has upset mountains, torn down cities in a day, therefore a little exostosis is not too great for her to remove providing she has the mediums thru which to transform, transmit and express her opinions. Give her the power and all of this and more will be accomplished in the next generation than was ever dreamed of in this

- 10. How to give adjustments correctly.
- 11. What means, and portions thereof, to use.
- 12. What diseases to adjust the 9th dorsal for.

The diseases that could or would be named pending an investigation of these functions that are abnormal would be endless and need a name to fit the perception of the person trying to tell what they were. At best, naming of a disease is a guesswork policy, but the locating of the cause of the abnormal functions for a specific area would be as direct as exact. On the right the superior part of the diaphragm would be reached. For affections of the spleen adjust to left unless subluxations prove to the contrary.

CHAPTER XXVIII. 10TH DORSAL.

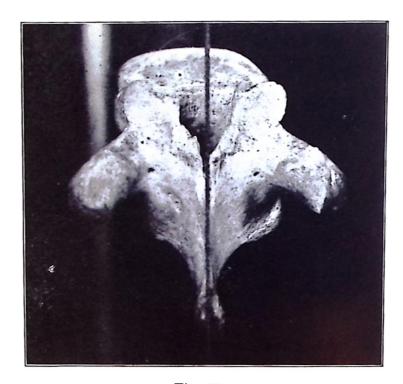


Fig. 551.

- 1. Vertebra and its title. Lower Spl. P. or Sup. K. P.
 - 2. Superficial palpation and landmarks.

Taking the left hand upon the right side, dropping the thumb under right 12th rib and then letting the little finger touch on the spine obliquely toward left shoulder will approximate the spinous process of this vertebra. The 10th dorsal spine corresponds to the lower borders of the lungs, which when fully expanded follow the upper borders of the 11th rib.

3. Normal positions and articulations.

This vertebra has a single facet on its upper border and a small one on the upper surface of the transverse process.

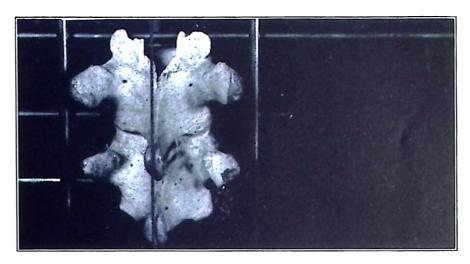


Fig. 552.

Fig. 552. *Posterior* view of 10th and 11th dorsal. Vertebrae behind rods.

Fig. 553. Right lateral view of 9th, 10th and 11th dorsal.

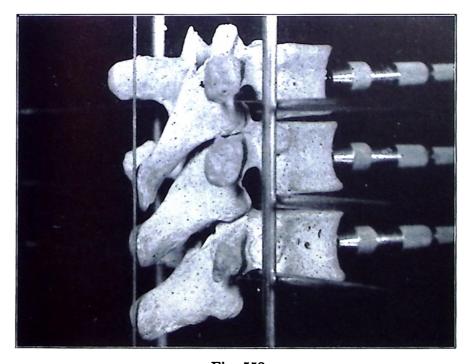


Fig. 553.

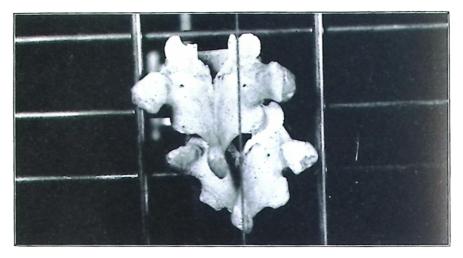


Fig. 554.

Subluxation, described and illustrated.

Fig. 554. Left subluxation of 10th dorsal.

Fig. 555. Right subluxation of 10th dorsal.

Fig. 556. Superior subluxation of 10th dorsal.

Fig. 557. Inferior subluxation of 10th dorsal.

Fig. 558. Left superior subluxation of 10th dorsal.

Fig. 559. Left inferior subluxation of 10th dorsal.

Fig. 560. Right superior subluxation of 10th dorsal.

Fig. 561. Right inferior subluxation of 10th dorsal.

Fig. 562. Posterior subluxation of 10th dorsal.

Fig. 563. Posterior superior subluxation of 10th dorsal.

Fig. 564. Posterior inferior subluxation of 10th dorsal.

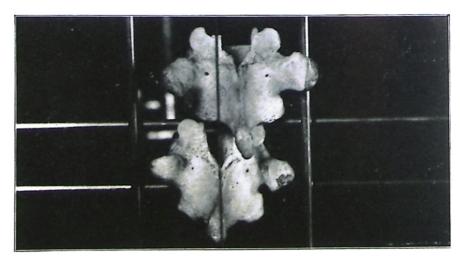


Fig. 555.

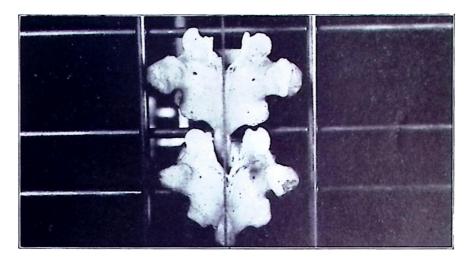


Fig. 556.

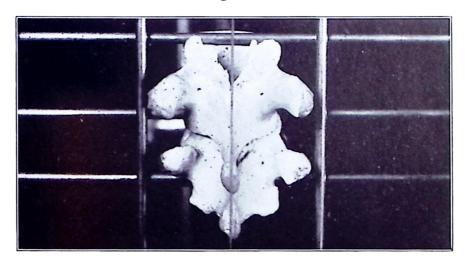


Fig. 557.

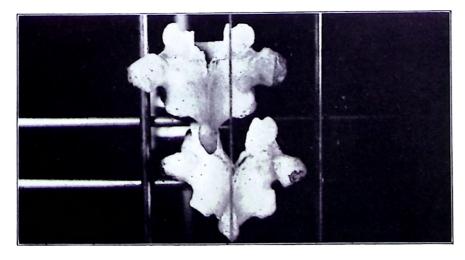


Fig. 558.

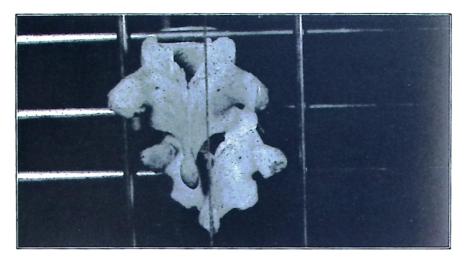


Fig. 559.

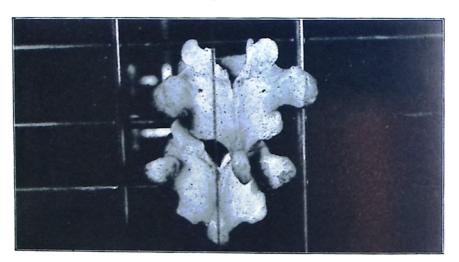


Fig. 560.

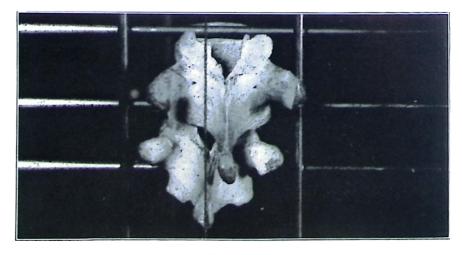


Fig. 561.

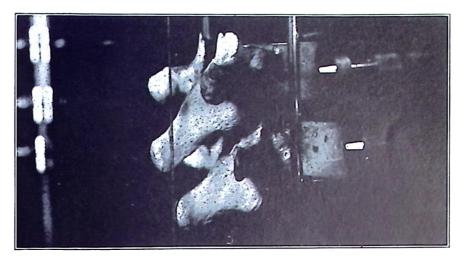
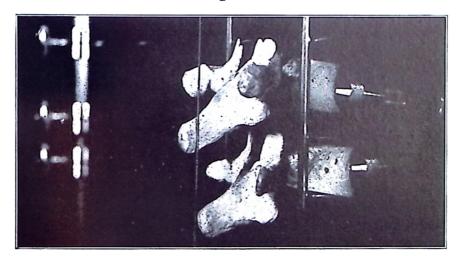


Fig. 562.



f ` Fig. 563.



Fig. 564.

- 5. Relative positions of adjacent vertebrae.
- 6. Where nerves are impinged.
- 7. How and what makes pressures.
- 8. Functions and organs involved. Location of.

Many lame backs in the superior region of the small of the back have their origin at 10-11 or 12th dorsal, oftentimes finding one or a series of these. When such is the case use the same principles as for curvatures, as it is in fact the original physical representative of a cause and would eventually become greater.

9. Adjustments necessary to correct each.

The general trend of adjustments for a local or general curvature, regardless of character, is to return it to the median lines, both perpendicularly and horizontally, according to the normal curves. If it be a left scoliosis the *general* direction of all adjustments should be to the right, altho special symptoms, such as pain on left side, might locally dictate otherwise, temporarily, but permanently the correction would be as aforesaid.

In a kyphosis the adjustment is towards anterior to reach the normal primary and secondary curves. In all lordoses a kyphosis precedes it and the former acts more as an adaptation.

In analyses of such cases use particular caution to differentiate between the curvature and its adapting curves for adjustment, for all kyphoses always will in proportion as they are lowered the lordoses will resume their normal. The correcting of the spine to median line is to but return all other abnormalities that have worried thousands.

In every curve there are three adjusting points, the most posterior point or where greatest concussion of forces took place, and the superior and inferior starting and ending terminals. You must, at discretion, modify the adjustment to include vertebrae above and below these, in order to return all to normal shape. While it is not within the province of this text to detail ankylosis, yet it is sufficient to state that continued and correctly applied Chiropracic adjustments will restore normal configuration and freedom. The exostoses were placed around subluxated vertebrae to keep them from getting worse or to lock them into abnormal position for fear the caries, etc., etc., might produce further subluxation and

consequently death. When Innate Intelligence's senses are aware that such is no longer needed because vertebrae are being replaced, it will be removed.

It is now a well established fact that in proportion as vertebra resume their normal position just that much is the exostoses converted to liquid chemicals and utilized at distant parts of the body. Hence as progress is pursued the work becomes easier and results faster and more apparent.

Sometimes, due to faulty palpation or lack of proper attention to some of the details necessary to make an accurate adjustment, the adjustment may be given wrong. This you will soon become aware of, thru some minor or greater symptom arising which did not previously exist. The adjustment in all such instances must be reversed to that to which they were given. If the adjustment was given right superior and the after effects become worse then adjust left inferior or the opposite to that which you did. In so doing do not aim to put it as far back as it was before, for if you do you will have the same trouble still existing. Aim to adjust the vertebra so that it will be just half-way of what it was.

- 11. What means, and portions thereof, to use.
- 12. What diseases to adjust the 10th dorsal for.

K. P. is one of the most important local regions in the spine. The junction of the 12th dorsal and 1st lumbar is the weakest in the spine. The dorsal has the added strength of the costals and the lumbar their increased dimensions and added thickness. To obviate this, Innate has supplied the junction with a posterior articular lock. An extension of the accessory and mammillary tubercles, which project superiorly, overlapping the inferior facets of the superior vertebra. This auricular lock may be shifted in position, varying one or two above or likewise below the 12th dorsal, altho it is usually between the 12th dorsal and 1st lumbar. Early and frequent subluxation in youth do, in a large majority, prevent the lock from forming, hence a constant, permanent, ever increasing weakness at this organ.

Consequently the point of exit of those nerves leading to and conveying mental impulse from brain to kidneys are almost always involved. Only in one case have I had the pleasure of finding K. P. normal.

I have enjoyed the unique distinction of examining Sandow's spine. It was normal with the exception of K. P. He persistently refused to acknowledge my repeated assertions that his back was lame at that place. He afterward admitted this fault ("in the most perfect man living") and described a lame back at that juncture and also a slight kidney trouble.

The nerves from that locality go to and make manifest the functions of kidneys, which are the excreting organs for all that liquid waste that gathers in the serous circulation. It is thus a very important and prominent locality to the Chiropractor.

As is usual in all diseases wherein Serous Circulation (See The Science of Chiropractic, Vol. II) and the functions of the kidneys are involved, either might be in excess or a diminution of its performance, consequently too much liquid waste can gather or be excreted, the former creating all the conditions of dropsy, serodaema, etc., etc. The latter creating the opposite or the dry, scaly or eruptive conditions. With these unlimited conditions, which are found at one of the combinations to exist with so many general fevers and other diseases, eruptive or otherwise, it can be plainly seen that Serous Circulation is an important subject, and K. P., the controller of its excretions, are organs not to be overlooked.

The so-called contagious or infectious diseases have their basis worked around the abnormal condition of the general system as regards to these organs primarily. If the right abnormal conditions exist in this circulation, rest assured certain eruptive conditions, varying in degrees, will stand forth.

Inasmuch as only one of a multitude have no subluxations at this point it can be readily seen why the question of epidemics. The disease in practical measures exists in subdue form, but add the external irritant and the internal body aims to respond and musters strength for the purpose, but a previous weakened condition makes the resistance below normal, hence abnormal action becomes more manifest in those individuals than were previously in a condition susceptible, due to subluxations.

CHAPTER XXIX. 11TH AND 12TH DORSAL.

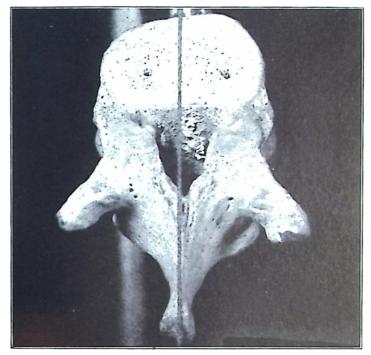


Fig. 565.

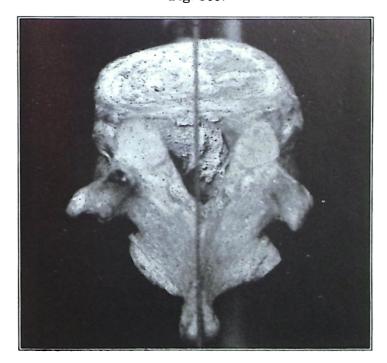


Fig. 566.

1. Vertebra and its title. K. P.

K. P. proper. The importance of this organic system is so great it is proportionately more supplied than any other system, except the generative organs, which is evidenced by the location of the dorso-lumbar enlargement where the nerves branch from the spinal cord on their way to the various viscera.

2. Superficial palpation and landmarks.

The eleventh has a facet on the pedicle only for the articulation of the 11th rib.

The twelfth has a facet near the lower border of its pedicle, and the inferior articular processes are shorter and bifid, ending in the superior, inferior and external tubercles.

The latter have facets or demi-facets on the sides of their centra for the articulations of the heads of the ribs, and the lumber vertebrae are without either a



Fig. 567. Three fingers in normal for palpating when prone.



Fig. 568. Three fingers in normal. Upright position. 11th and 12th dorsal.



Fig. 569. *Posterior* spinous process—determined by palpation. Notice third or center finger.



Fig. 570. Superior spinous process. Notice proximity of superior two fingers.



Fig. 571. Inferior spinous process. The opposite of Fig. 570.



Fig. 572. Right subluxation. Palpation shows finger in that direction.

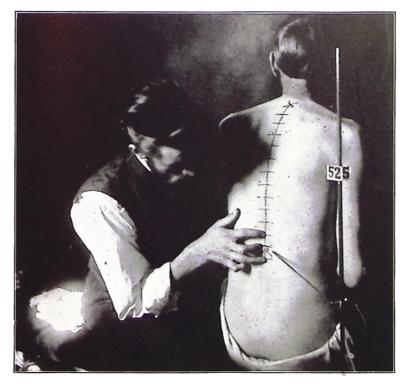


Fig. 573. Left subluxation. Palpation shows finger on subluxated spinous process to the left of median line.



Fig. 574. Right superior subluxation as determined by palpation in which the photograph shows their location.



Fig. 575. Right inferior subluxation. Notice and study the position of fingers in comparison with previous subluxations and you will grasp the import of each.



Fig. 576. $Left\ superior\ subluxation.$



Fig. 577. Left inferior subluxation.

foramen or a facet. These peculiarities are most conspicuous in the middle vertebrae of each region, while at the junction of the contiguous regions the adjoining vertebrae approximate one another in conformation. This is nicely illustrated with the inferior surface of the 12th which partakes of the characteristics of the superior of the lumbar and vice versa. This is also noticed between Occiput and Atlas; Atlas and Axis; Axis and third cervical; 7th cervical and 1st dorsal; 12th dorsal and 1st lumbar; 5th lumbar with 1st sacral; last sacral with 1st coccygeal vertebra.

- 3. Normal positions and articulations.
- 4. Subluxations, described and illustrated.
- 5. Relative positions of adjacent vertebrae.
- 6. Where nerves are impinged.
- 7. How and what makes pressures.
- 8. Functions and organs involved. Location of.

While primarily the kidneys will be affected as a result of local subluxations, the evil that occurs thereby does not alone remain confined to them. If the kidneys be paralyzed, lack of motion, and inability to gather urea will be the result, consequently this excess of what is superfluous liquid gathers generally or in these tissues locally defined which makes of it a sub-dumping ground and almost endless will be the symptoms that follow one specific subluxation of this region.

On the reverse if the pressure be light; stimulating in character; the sapping functions are excessive; the body partakes of the opposite symptoms, viz., becomes dry; skin is scaly; dandruff; bald heads; dry hair; lack of glandular secretions; etc., etc., follow. In the former too much secretion is formed and chemical proportions are weakened. In the latter too much concentrated, all because of one set of organs not able to be coordinated, dry skin be prominent and excessive heat is added as an additional local symptom here or there, we can easily have any one of the many eruptive diseases.

- 10. How to give adjustments correctly.
- 11. What means, and portion thereof, to use.

12. What diseases to adjust the 11th and 12th dorsal for.

It can be observed that the names of the diseases could be listed for pages. We will allow the student to draw individual conclusions according to the outlined framework listed above and the conclusions reached by this analysis. If he wishes a scientific, carefully compiled list of diseases and where to adjust for each, I refer him to Vol. IV. Causes Localized.



Fig. 578. The table that has been in vogue for many years in Chiropractic work and is known as "the Chiropractor's work bench."

The "bench" has the front division separated. The degree of space between depends upon whether adjusting high or low and can be increased at will. This table will be replaced with a more practical one in the immediate future, as The P. S. C. is originating a table that eradicates the straining or misplacing of vertebrae that occur when the patient is lying down or setting up, before or after the adjustment.

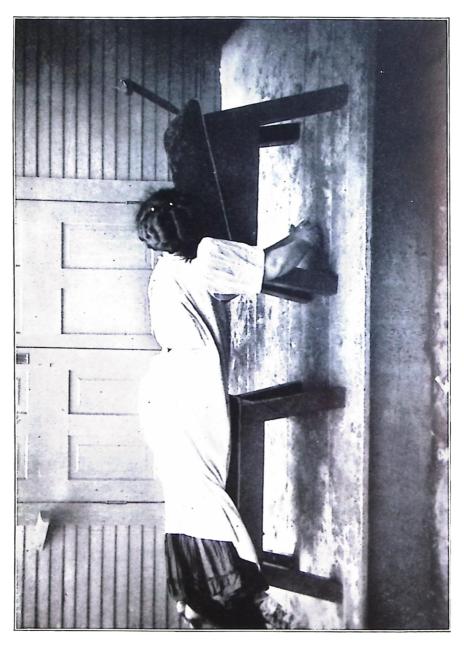


Fig. 579. Shows the position assumed by the patient when ready on the "work bench" for an adjustment. The garb worn exposes only the back. Complete relaxation, upon the part of the patient, is desired. Relaxation of the arms and muscles of the abdomen, as well as back, are an essential feature in making this work easy and practical.

CHAPTER XXX. THE LUMBAR VERTEBRAE.





Fig. 580. Posterior view of the 5th lumbar vertebrae.

Notice how plumb line pierces all spinous processes. Fig. 581. *Right* lateral view of the five lumbar

rig. 581. Right lateral view of the five lumbar vertebrae. Notice the foramina (openings) thru which the brain nerves pass outward to the tissue cells and viscera.

CHAPTERS XXX-XXXI. 1ST AND 2D LUMBAR.

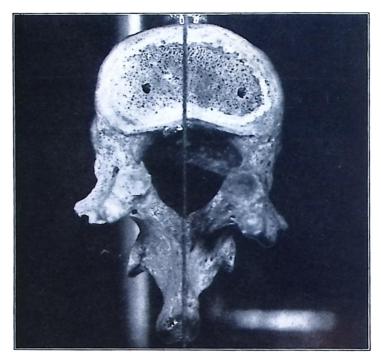


Fig. 582. 1st Lumbar.

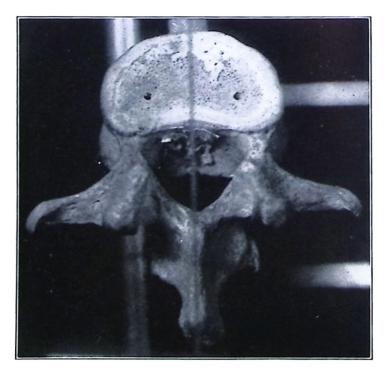


Fig. 583. 2d Lumbar.

1. Vertebrae and its title. 1-2 lumbar are U. P. P. 1st and 2d Lumbar.

If Chiropractic is used properly and carefully, it is of great benefit and a power for good, but equally so for bad. Be careful!

2. Superficial palpation and landmarks.

The lumbar vertebrae are the largest segments of the vertebral column. Their bodies are more constricted in the middle and have their margins more prominent, altho in other respects are like the bodies of the thoracic region.

The arches are relatively less deep, there being considerable intervals between the laminae of the neighboring vertebrae upon each side. The spinal foramen is larger than in either of the upper regions, and of triangular shape. The spinous processes are broad and thick vertical projections, terminating in rough lateral tubercles below. The superior articular processes are concave and directed backward, while the inferior are convex and directed outward and forward. The transverse or costal processes are long and slender and are subject to fracture in adjusting upon them when compared to the spinous processes. They are placed in front of the articular processes instead of behind them, as in the dorsal vertebrae. The superior tuberosities point downward from the bases of the transverse processes, and are called accessory processes. The latter

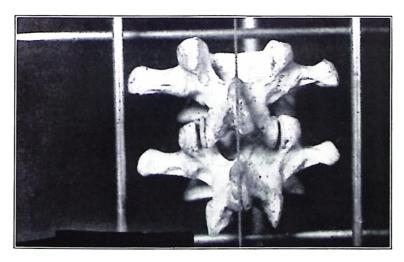


Fig. 584.

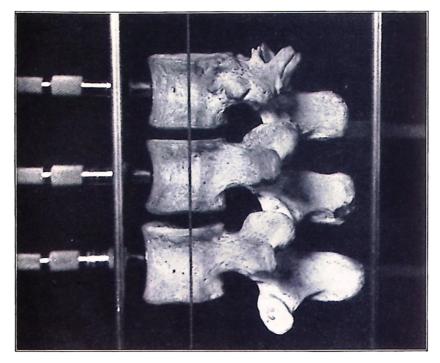


Fig. 585.

are pronounced in some of the lower animals, as is demonstrated by the study of comparative osteology in *The P. S. C.*, and serve to lock the vertebrae in this region firmly together.

3. Normal positions and articulations.

The position of all the lumbar is in common to the foregone rules the median line. The 2d lumbar spine is opposite the termination of the duodenum, and also opposite the commencement of the cauda equina within the spinal column.

4. Subluxations, described and illustrated.

The lumbar owing to their articular locks show the lateral subluxations not as great as in the dorsal, and altho study of the spinal skeletal looks as if such were impossible, bear in mind that they are as common as the same in dorsal. The symptoms manifested on one or both sides, and the study of rotation around the axial line of the vertebral column prove that such are facts. The correction, by studying, relieving that trouble is sufficient proof of its existence and the plausibility of correction.

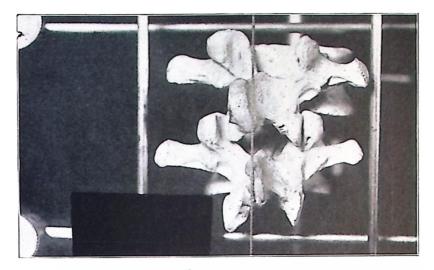


Fig. 586.

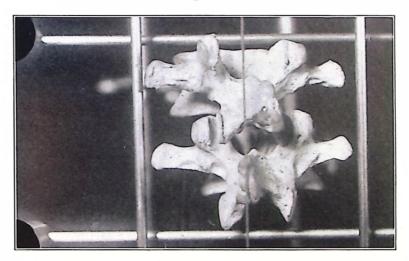


Fig. 587.

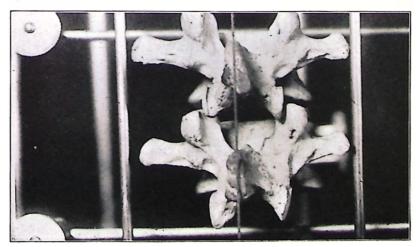


Fig. 588.

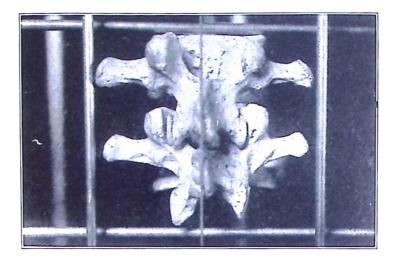


Fig. 589.

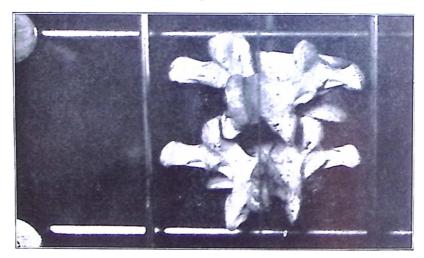


Fig. 590.

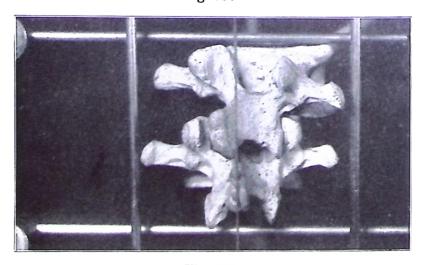


Fig. 591.

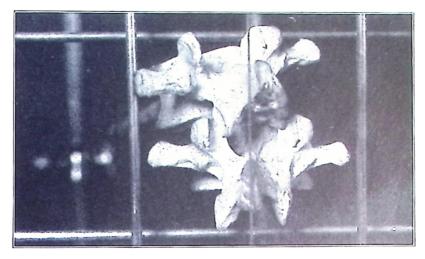


Fig. 592.

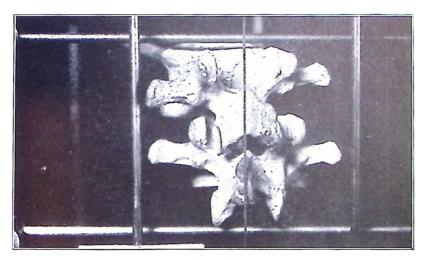


Fig. 593.

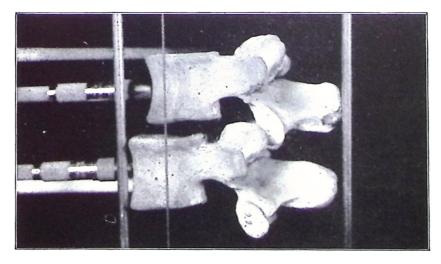


Fig. 594.

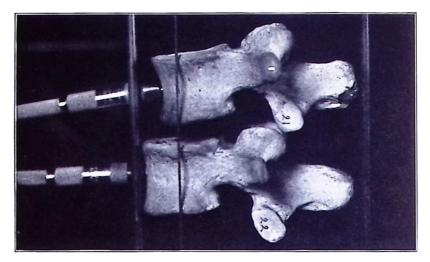


Fig. 595.

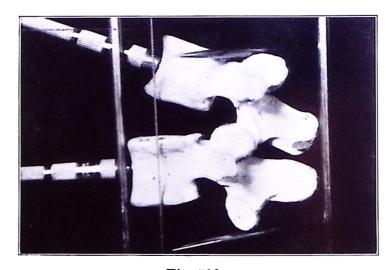


Fig. 596.

Fig. 584. Normal position of 2d and 3d lumbar placed within a square box. This method allows comparison between processes and rods. Whether normal or abnormal, and in which way can be studied by relations.

Fig. 585. Left lateral view of 1st, 2d and 3d vertebrae for the purpose portrayed in Fig. 584.

Fig. 586. Left subluxation of 2d lumbar, which is the superior vertebra. Notice comparison with plumb line and surrounding rods.

Fig. 587. *Right* subluxation of superior vertebra—the 2d lumbar. Posterior view.

Fig. 588. Superior subluxation of 2d lumbar. Compare spaces between spinous processes with the normal.

Fig. 589. Inferior subluxations of 2d lumbar. Com-

pare this with Fig. 588.

Fig. 590. Left superior subluxations. Notice that spinous process of superior vertebra is to the left of plumb line and also superior of normal as proven by comparison with Fig. 584.

Fig. 591. Left inferior subluxation of 2d lumbar. While to the left, it is inferior to the median line.

Fig. 592. Right superior subluxation. Palpation would soon determine the position that his vertebra is now in. All vertebrae, especially in the lumbar, have a noticeable rotation; it is when this is excessive that we have this character of subluxations.

Fig. 593. Right inferior subluxation of 2d lumbar. Notice positions and compare them carefully. The lower vertebra has, in all these abnormalities, remained fixed.

Fig. 594. *Posterior* subluxation of 2d lumbar. Left lateral view. It is this type of subluxation that assists in decreasing the size of the foramina.

Fig. 595. Posterior superior subluxation. A condition met with as often as is opposite that follows.

Fig. 596. *Posterior inferior*. Compare with Fig. 595 and see difference.

Careful palpation will reveal that the posterior or inferior posterior subluxations are the most common. It is the deviations from this to the right or left that makes the lateral subluxations.

5. Relative positions of adjacent vertebrae.

The relative position would be in accordance to the above description.

6. Where nerves are impinged.

The importance of abdominal and generative organs are proportionately greater as regards size and functions to that extent that they receive more brain fibres than any other one section of the spine. To accommodate this transmission the lumbar intervertebral foramina are larger than any other, consequently the sublux-

ation that would produce pressures thereon are proportionately greater. The greatest decreasing of the size and shape will be by the compression from above downward, or vice versa, or the possible tilting of a superior impingement on right superior and left inferior, a condition made prominent after nerve tracing from point of abnormal expression to location of impingement, where the above results are noticeable. Further palpation of the spinous process compared with the transverse, but prove it to be a fact.

- 7. How and what makes pressure.
- 8. Functions and organs involved. Location of.
- P. P. is prominent inasmuch as thru this region pass outward all those brain fibres which transmit the Innate intellectual functionating power of every organ, and tissue in the abdomen even going so far as to convey those impulses which express action in the abdominal walls. The substance of the vertebrae themselves are supplied by fibres which emit thru corresponding foramina.

Every function that is common to the body in general is noticeable in this region and in addition one more which is not in other portions, viz., reproduction.

Adjusting the lumbar vertebrae for diseases of pregnant persons is permissible if the individual is suffering pain or discomfort, great or little, in those organs that have to do with such functions. Great care and discretion must be used in determining who should not be adjusted under such circumstances. The patient who relaxes easily and freely could be adjusted up to the very day of delivery, providing the adjustment is given with freedom and caution. The person who contracts the muscles of the spine and abdomen under adjustment, whether pregnant or not, would be a poor subject to adjust at any stage of this process, for forced adjustments are more damaging, pregnant or not; therefore might do more harm than good.

The greatest reports of damages that pseudos are doing in the field is from a misunderstanding of how to get the patient to relax. They aim to force the adjustment; abnormal results are increased as a consequence.

I have had reported to me many cases in this condition that have been permanently injured and the use of the uterus and ovaries ruined for the lack of care in how

the adjustment was given. Have your table sidely divided with the thighs highly raised. The P. S. C. has carried many cases under adjustment in this manner to the very day of uterine expulsion in a painless and free manner. The thighs and abdomen should at all times be far removed from touching anything, that those portions be not jarred or directly concussed with any hard substances underneath, yet with all, the thighs must be placed on something solid to make the light adjustment a possibility.

- 9. Adjustments necessary to correct each.
- 10. How to give adjustments correctly.

As mentioned, the transverse processes are usually flat from anterior to posterior, therefore are subject to easy fracture, especially if the subluxation be a severe one and there be any exostotic locks or ankyloses. The spinous processes are on the reverse the largest, strongest in the body; therefore greater leverage can be had for a lateral adjustment. As before mentioned, I prefer the use of the spinous all thru, as it holds primarily to the simplicity of P. S. C. teachings, which is to abbreviate as far as possible as is consistent with demonstrable results. Have one common basis and hold to that in preference to manufacturing such a jargonity of words and movements that mystifies the student.

The thinker will observe that the larger number of diseases studied are followed in this region by strong, massive exostoses and ankyloses. There are more dorsal vertebrae and these have the costal to assist in what might be termed artificial bracing, but in the lumbar this is entirely absent, therefore its place is taken with exostoses. For the relative space the exostoses that is deposited at, around or between lumbar vertebrae is greater, solidity, condensation is more, and of the specimens studied you will notice they have with it more metallic ring.

12. What diseases to adjust the 1st and 2d lumbar for.

The corresponding point of the preceding chapter answers this also.

CHAPTERS XXXII-XXXIII-XXXIV. 3D AND 4TH LUMBAR.

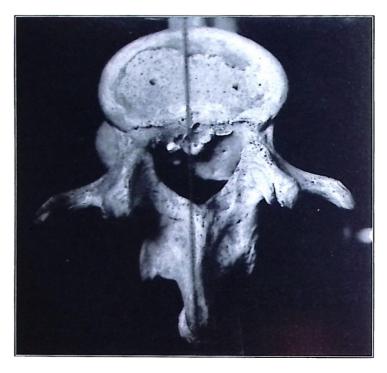


Fig. 597. Enlarged view of 3d lumbar vertebra.



Fig. 598. Enlarged view of 4th lumbar.

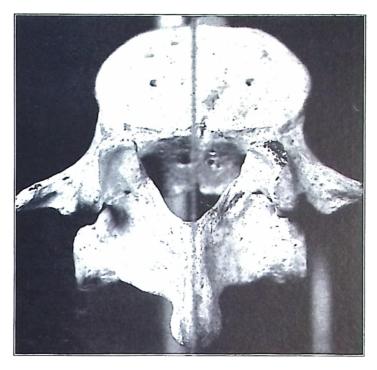


Fig. 599. Enlarged view of 5th lumbar.

1. Vertebrae and their titles. P. P. or U. R. P. and L. P. P. or R. P.

Having its origin in the fact of one case of constipation in which an adjustment at this place had the bowels in action before the party could reach the bathroom. You may rest assured that he *ran*, and when research in these investigations were going on this was named as above, altho in recent years it has been better known as a *Rectal Place*.

2. Superficial palpation and landmarks.

The 4th lumbar spine is opposite the termination of the abdominal aorta.

Placing the first fingers upon the crest of each ilium and drawing a horizontal line will reach at some portion of the 4th lumbar spine, from which the soundings can be made above or below. The 5th lumbar vertebra is different from its fellows in having the body much thicker in front than behind, forming, when articulated with the sacrum, the sacro vertebral promontory, and in approaching in character the upper sacral vertebra in the great size of its transverse processes and in the wide interval between the inferior articular processes.

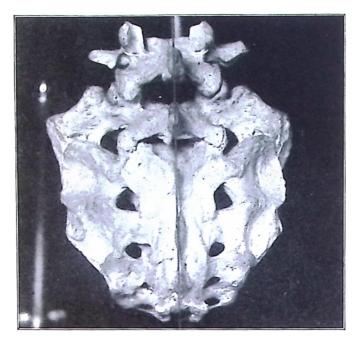


Fig. 600. Posterior view of 5th lumbar and sacrum. Normal.

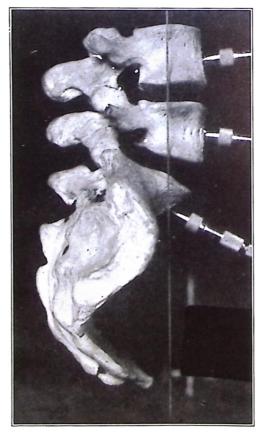


Fig. 601. Right lateral view of 4th and 5th lumbar vertebrae and sacrum. Normal.

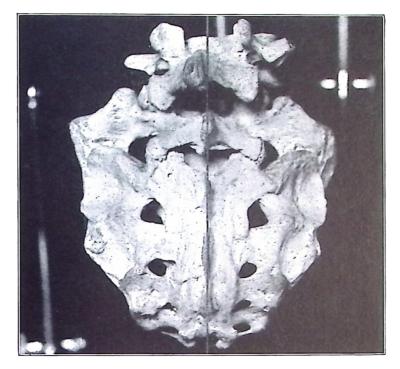


Fig. 602.

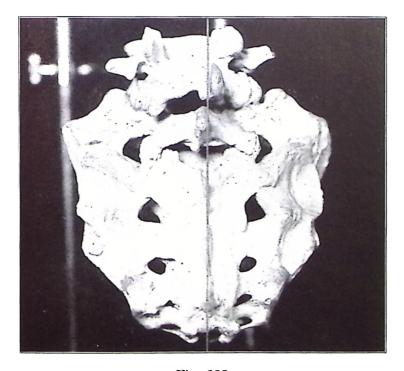


Fig. 603.

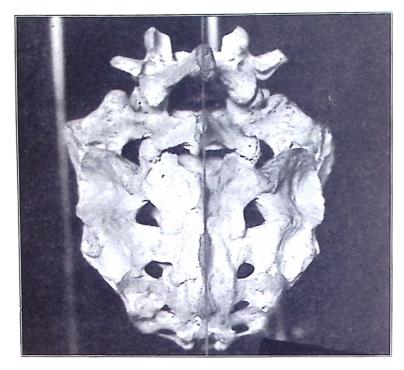


Fig. 604.

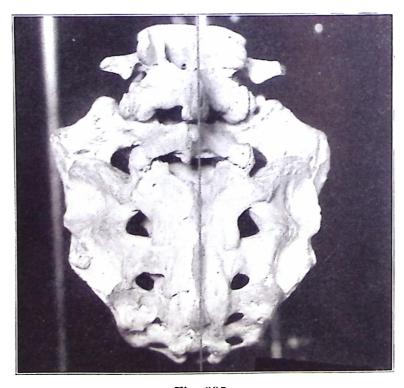


Fig. 605.

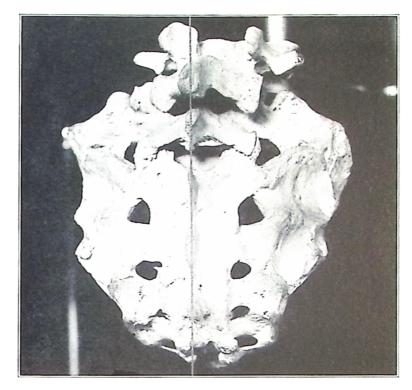
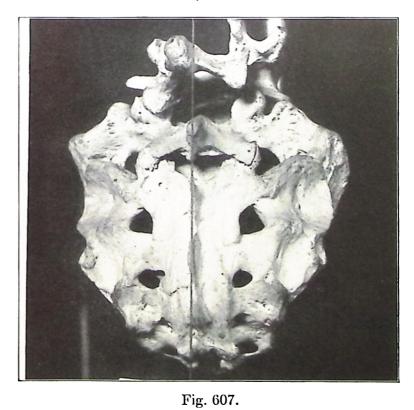


Fig. 606.



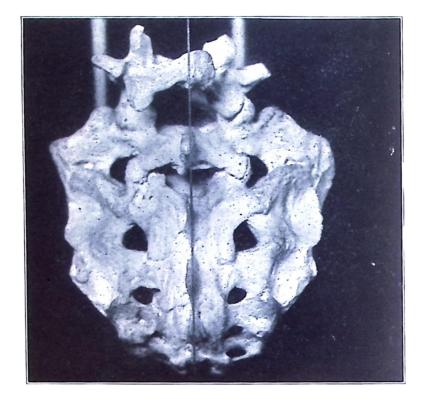


Fig. 608.

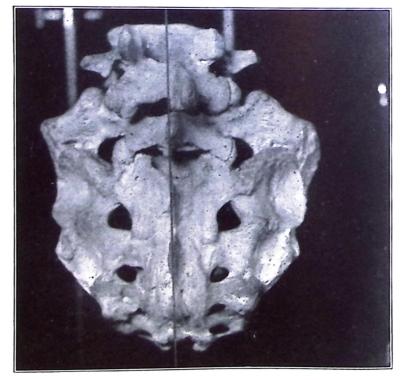


Fig. 609.

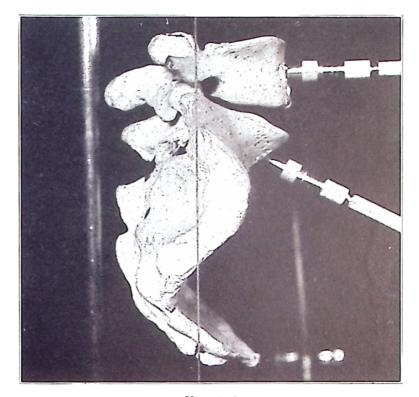
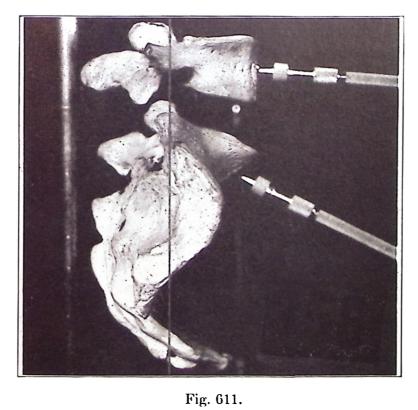


Fig. 610.



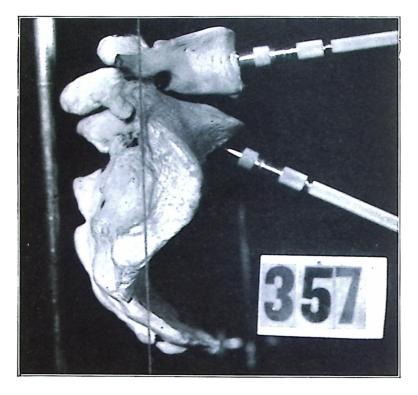


Fig. 612.

Fig. 602. Left subluxation of 5th lumbar. Posterior view.

Fig. 603. Right subluxation of 5th lumbar. Study plumb line and the comparisons thruout this set.

Fig. 604. Superior subluxation of 5th lumbar.

Fig. 605. Inferior subluxation of 5th lumbar.

Fig. 606. Left superior subluxation of 5th lumbar.

Fig. 607. Left inferior subluxation of 5th lumbar.

Fig. 608. Right superior subluxation of 5th lumbar.

Fig. 609. Right inferior subluxation of the 5th lumbar.

Fig. 610. Posterior subluxation of 5th lumbar.

Fig. 611. Posterior superior subluxation of 5th lumbar.

Fig. 612. Posterior inferior subluxation of 5th lumbar.

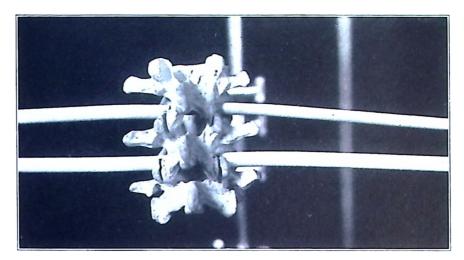


Fig. 613.

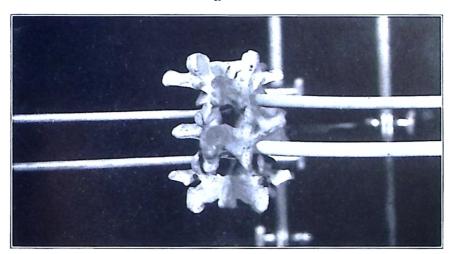


Fig. 614.

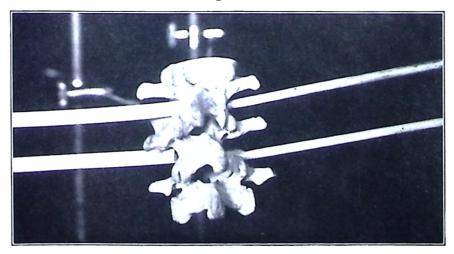


Fig. 615.

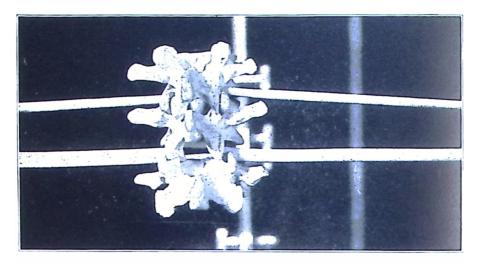


Fig. 616.

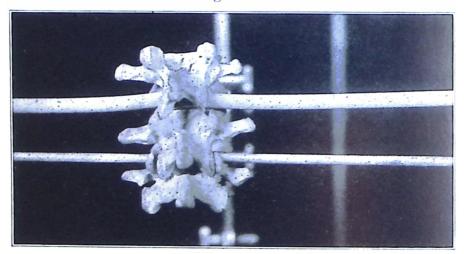


Fig. 617.

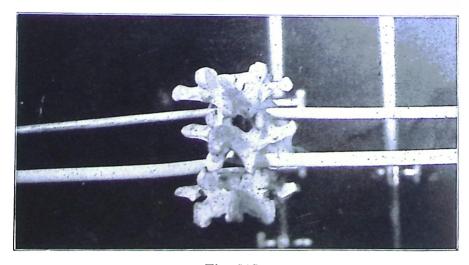


Fig. 618.

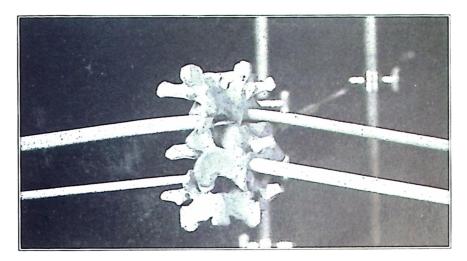


Fig. 619.

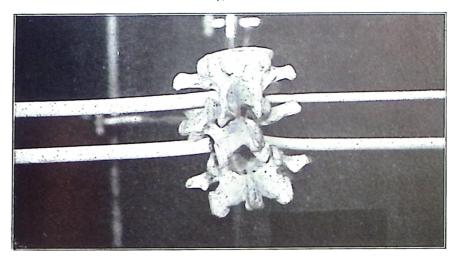


Fig. 620.

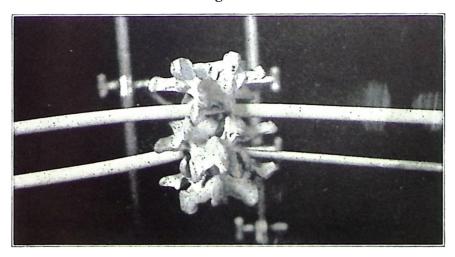


Fig. 621.

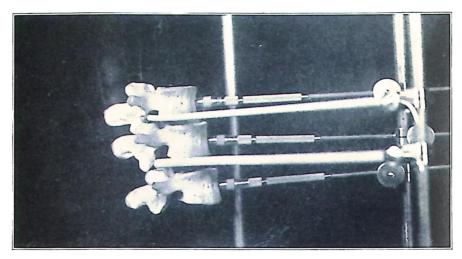


Fig. 622.

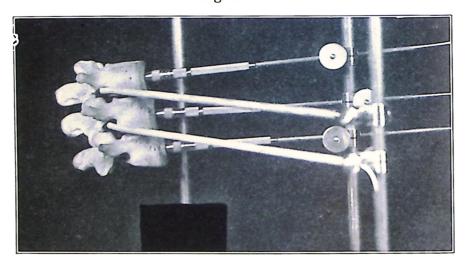


Fig. 623.

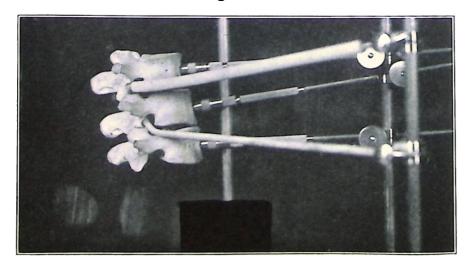


Fig. 624.

Fig. 613. 3d, 4th and 5th lumbar. Posterior view. Four normal nerves issuing from the intervertebral foramina.

Fig. 614. *Left* subluxation of 4th lumbar, showing pressure upon nerves issuing from between the 3d and 4th, and 4th and 5th on left side.

Fig. 615. Right subluxation of 4th lumbar to show the opposite to Fig. 601, not only in subluxation but in pressures.

Fig. 616. Superior subluxation of 4th lumbar, showing pressures upon both superior foramina to the 4th lumbar.

Fig. 617. *Inferior* subluxation of 4th lumbar, producing pressures upon both the lower nerves.

Fig. 618. Left superior subluxation of 4th lumbar, producing pressures upon the nerves emitting thru left superior foramina to 4th lumbar.

Fig. 619. Left inferior subluxation of 4th lumbar. Similar as to 4th lumbar.

Fig. 620. Right superior subluxation of 4th lumbar. Pressure upon nerve having its exit superior to 4th lumbar on right side.

Fig. 621. Right inferior subluxation of 4th lumbar. Pressure is opposite to the above. Instead of being superior to the vertebrae on that side, it is inferior.

Fig. 622. *Posterior* subluxation of 4th lumbar. Right lateral view. Both nerves are impinged.

Fig. 623. Posterior superior subluxation of 4th lumbar. Right lateral view. Superior foramen is occluded and diminished in size and shape, hence smaller; consequently pressure exists.

Fig. 624. *Posterior inferior* subluxation of 4th lumbar. The pressure is the reverse of what it was in Fig. 610.

The subluxations that exist with the 4th lumbar is in common with other lumbar, altho the 5th has one distinction, viz., it will be posterior and to one side or the other. The posterior aspect of this vertebra becomes more noticeable here than in other lumbar vertebrae.

^{3.} Normal positions and articulations.

^{4.} Subluxation, described and illustrated.



Fig. 625.

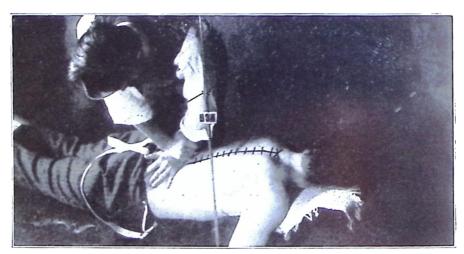


Fig. 626.



Fig. 627.

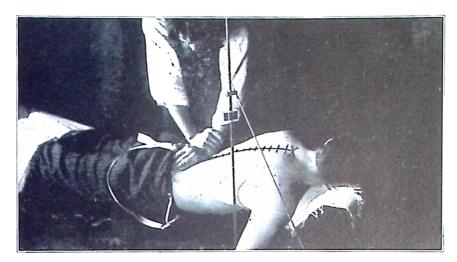


Fig. 628.



Fig. 629.

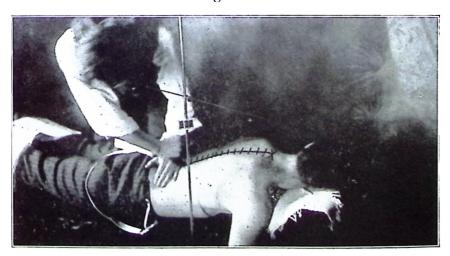


Fig. 630.



Fig. 631.



Fig. 632.

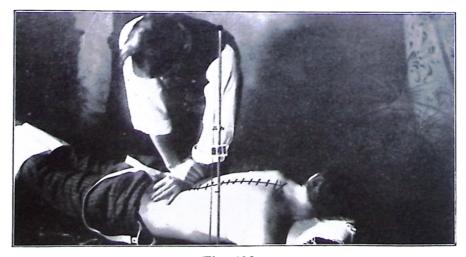


Fig. 633.

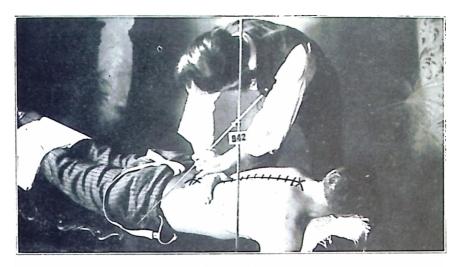


Fig. 634.

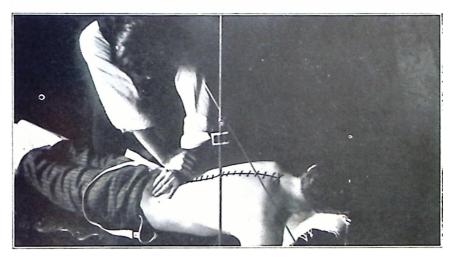


Fig. 635.

Fig. 625. Left subluxation with its adjustment to the right.

Fig. 626. Right subluxation with its adjustment to the left.

Fig. 627. Superior subluxation of 3d lumbar with its adjustment to the inferior.

Fig. 628. Superior subluxation of 3d lumbar with its adjustment to the superior.

Fig. 629. Left superior subluxation with its adjustment to the right inferior.

Fig. 630. Left inferior subluxation with its adjustment to the right superior.

Fig. 631. Right superior subluxation with its adjustment to the left inferior.

Fig. 632. Right inferior subluxation with its adjustment to the left superior.

Fig. 633. *Posterior* subluxation of 3d lumbar with its adjustment to the *anterior*.

Fig. 634. Posterior subluxation of 3d lumbar with its adjustment to the anterior.

Fig. 635. Posterior superior subluxation of same vertebra with its adjustment to the anterior inferior.

Fig. 636. Posterior inferior subluxation of 3d lumbar with its adjustment to the anterior superior.

- 5. Relative positions of adjacent vertebrae.
- 6. Where nerves are impinged.
- 7. How and what makes pressures.
- 8. Functions and organs involved. Location of.

As a general rule it can be said the higher the zone affected in abdomen and legs, the higher in the lumbar is the subluxation. If the disease be located in the bowels proper or in the approximate region of the knee its cause would be located at M. P. P., or if the affection be in the feet or lower abdominal region, as rectum, etc., etc., the lower lumbar will divulge the secret.

- 9. Adjustments necessary to correct each.
- 10. How to give adjustments correctly.
- 11. What means, and portions thereof, to use.
- 12. What diseases to adjust this vertebra for.

Rheumatism of the legs, hemorrhoids, prolapsus of the rectum, running sores of the legs, etc., etc., milk leg, leg cramps.

of chiropractic adjustments $CHAPTER\ XXXV.$ SACRUM.

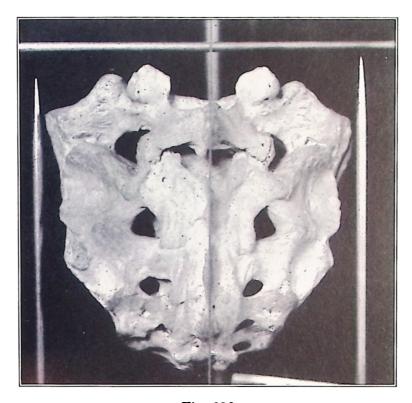


Fig. 636.

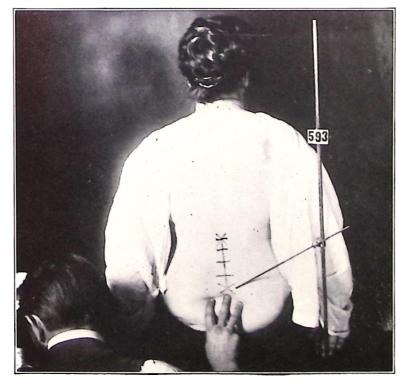


Fig. 637.

- 1. Vertebrae and its title. Sa. P.
- 2. Superficial palpation and landmarks.

Closely imbedded as it is between the two ilii and the fifth lumbar, and forming as it were a superior wedge between the two, it may seem as the subluxations of it is an impossibility. Close careful palpation will reveal the facts that the superior surface or its base may be elevated upon one side or the other, or one lateral half may be more anterior than the other, but the most usual subluxation is the posterior or anterior position of the sacrovertebral angle and it is known that the 5th lumbar and the sacrum form a sacro-vertebral angle, and it is quite common to find this angle in excess or not enough to give the body the rotundity necessary to have superior equilibrium. The spinous processes of the 5th and 1st of the sacrum may be quite prominent, posteriorly or the reverse, giving the appearance of an anterior subluxation of the 5th lumbar.

- 3. Normal position and articulations.
- See Fig. 636, which is normal.
- 4. Subluxations described and illustrated.

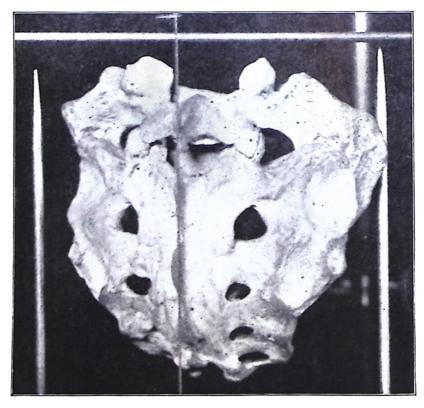


Fig. 638.

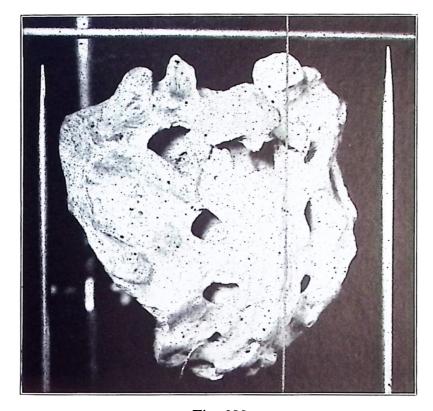


Fig. 639.

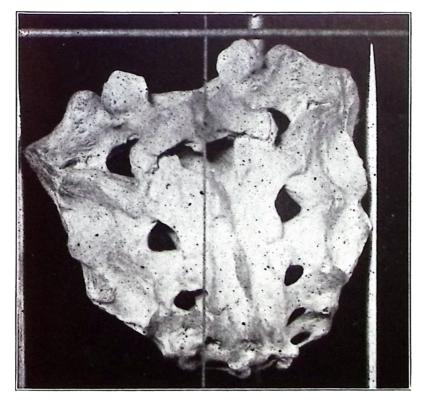


Fig. 640.

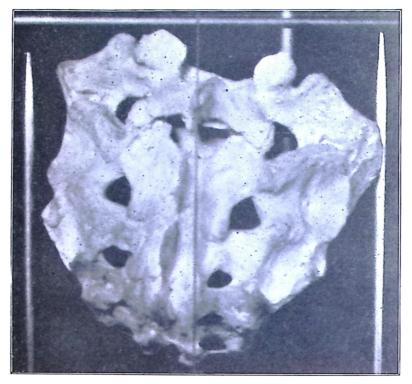


Fig. 641.

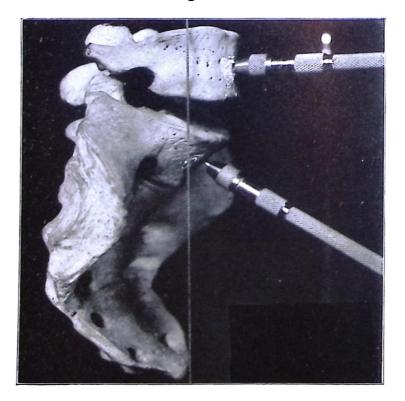


Fig. 642.

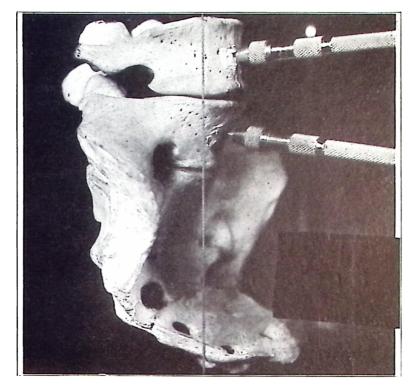


Fig. 643.

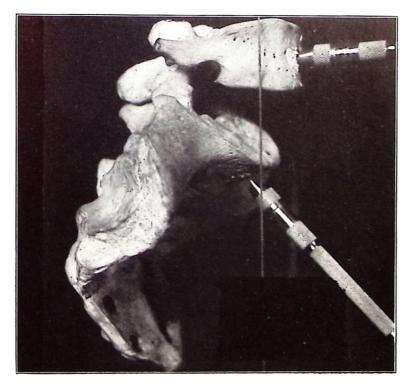


Fig. 644.

Fig. 636. Enlarged view of Sacrum. Posterior. Normal position.

Fig. 637. Three fingers on posterior superior spines of ilii and on 1st spinous sacrum.

Fig. 638. Right lateral half of sacrum is posterior and left lateral half is anterior. Adjustment would be on right to anterior.

Fig. 639. Right lateral half of sacrum is anterior and left lateral half is posterior. Adjustment would be on left to anterior. The same portions of hands are used as with lumbar.

Fig. 640. Right articulation with lumbar is higher than left. Notice plumb line does not bisect the spinous processes of all 5 sacral vertebrae. Adjustment will be inferior on right.

Fig. 641. Right articulation with lumbar is lower than left. Notice the plumb line. Adjustment would be inferior on left.

Fig. 642. Lateral *posterior* angle showing normal space between the fifth lumbar and sacrum.

Fig. 643. Angle made *smaller* by the angle portion of the sacrum being subluxated to the *anterior*. 5th lumbar vertebra has remained as a fixed point.

Fig. 644. Angle greatly increased by the lower portion of the sacrum having been subluxated *posteriorly*.

The spinous process of the 5th lumbar and 1st sacral show these differences under palpation. Whether inferior of 5th lumbar or anterior or posterior of sacrum is also determined by the additional knowledge of the inferior of sacrum.

- 5. Relative position of adjacent vertebrae.
- 6. Where nerves are impinged.

SACRA AND THEIR POSSIBILITIES.

The first pair of spiral nerves has a common exit inferior to the occiput and superior to the atlas. Continuing down this makes the 25th pair of nerves inferior to the 5th lumbar and superior to the first sacral vertebra. There are five sacral segments in the youth, thus making four anterior and four posterior sets of sacral

foramina. As a pair of nerves has its common exit thru each, this would make 29 pairs of nerves, the one inferior to the 5th sacral segment and superior to the first coccygeal segment making the 30th pair of nerves defined under Dunglison under the heading Vertebral Nerves. If we further wish to classify and be accurately correct, there are 35 pairs of nerves, for it is an anatomical fact that there are four anterior sets thru the four anterior sacral foramina and four posterior sets thru the four posterior sacral foramina. The same is true of two pairs, one anterior and one posterior, in and from the cornua of the 5th sacral segment and first coccygeal segment.

In youth and up to approximately 20 years of age, these segments of the sacrum are more or less loose and do not coalesce until approximately 20 or 25 years of age. Meanwhile they are loose and movable, approximately the same as the lumbar, dorsal, or cervical vertebrae above.

Where is the child who goes thru life until 15 or 20 years of age and does not receive one or many falls upon the buttocks, thus endangering severely the normal position of the coccyx and driving the blow up, into and thru the sacral segments, thus distorting their normal position? It can be seen, then, that as movable segments the five sacral vertebrae are subject to subluxations, which in turn produce pressure upon any one or pair of the anterior or posterior nerves or sets of nerves, thereby impeding the normal flow of mental impulses, and would interfere with functions to which these nerves were conveying mental impulses. After subluxations have been produced and sacral vertebrae coalesce (grow solidly together), the sacrum becomes one solid bone, the subluxations of which have never been corrected. means that once the vertebrae have been coalesced with subluxations therein, they are never subject to correction, for to attempt to correct them in latter or adult life would be equal to refracturing a fracture,—in other words, attempting to reset a fracture, for the coalescence would necessarily need be broken to correct the subluxations of the segments.

Chiropractic with its present standing, dealing with humanity in their present form, cannot be said to be ideal and a correct art, because we are dealing with approximately 80 per cent of adults, about 20 per cent being below the age of coalescence of these segments; therefore there must be and is a certain percentage of subluxations of these segments which have coalesced, which patients come to the Chiropractor expecting a correction of ALL his or her troubles, which would be naturally impossible because of the coalescence of the vertebrae in question. This puts us in a place where we know what condition exists, where it is, what damage it is doing, the past, present, and possible future of that case, yet we are utterly helpless because of past generations not possessing the knowledge that we possess, not containing within themselves the possibilities of correction that we possess; consequently, what subluxations exist to (approximately) this age must continue thruout their life. for we have no means of correcting the same. We can but begin to improve upon mankind by beginning a careful palpation of each and every segment of the sacrum, and when found subluxated, adjust them.

In this chapter we have dealt with the sacrum as one segment, but we cannot be too careful in its application to discriminate between the sacrum as one segment in the adult and the sacrum as composed of five segments in the youth. Therefore, if your patient be a youth approximately twenty years and under, examine carefully the position of each segment of the sacrum. This can be done by approximating what would be the transverse processes, if it were a vertebra above. If there are sacral vertebral spinous processes, palpate them carefully, study their approximate positions, and if found subluxated, according to the rule previously laid down in this book, adjust them in the same like manner as would be done for any other vertebra thruout the spine.

If it can be said that the Chiropractor fails on a certain percentage of cases, then here is one possible reason why. Could these same people have come to us during their youth we could have corrected the acute subluxations and not permitted them to have become chronic. We, as Chiropractors, cannot be blamed for the present chronic condition of the subluxations in question, nor can Chiropractic be called not a science and art because of the seeming failure. The failure is not in the science, art, or philosophy, but in the present condition having matured to such an abnormal position

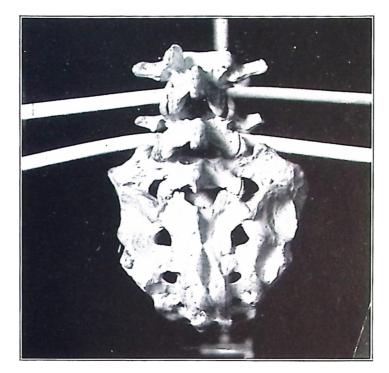
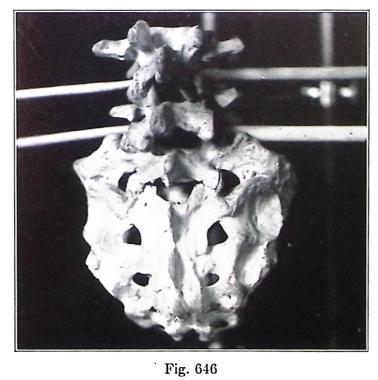


Fig. 645.



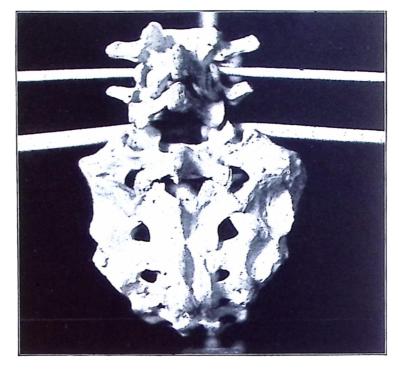
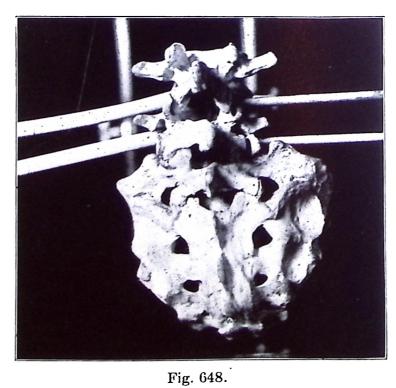


Fig. 647.



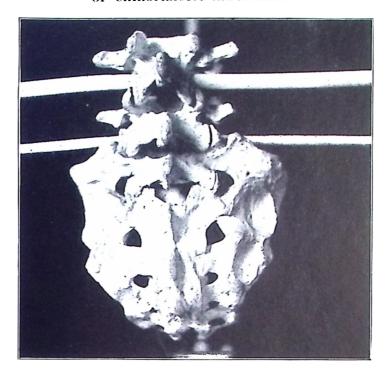


Fig. 649.

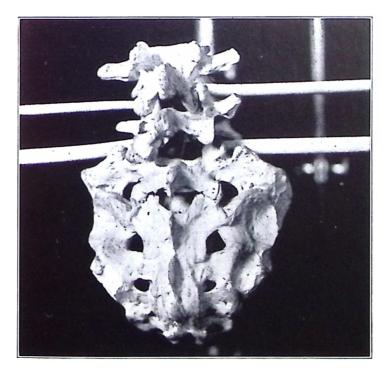


Fig. 650.

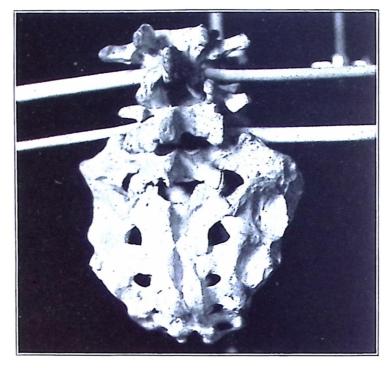
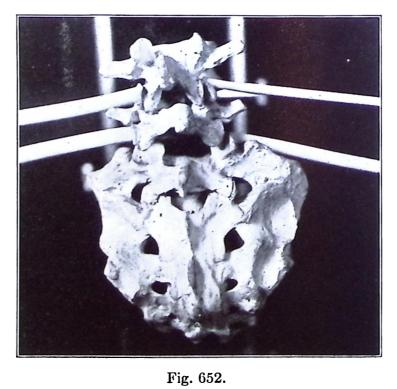


Fig. 651.



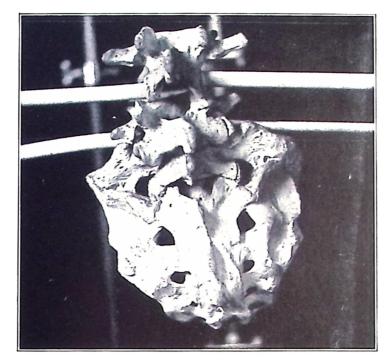
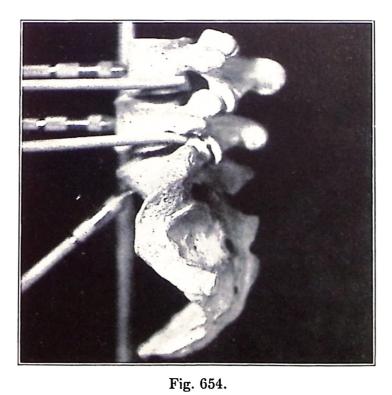


Fig. 653.



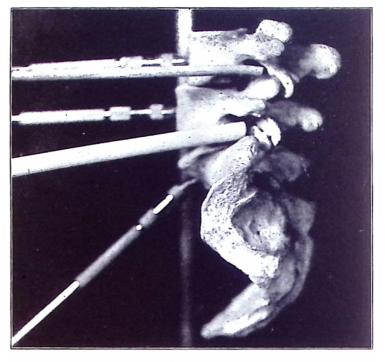


Fig. 655.

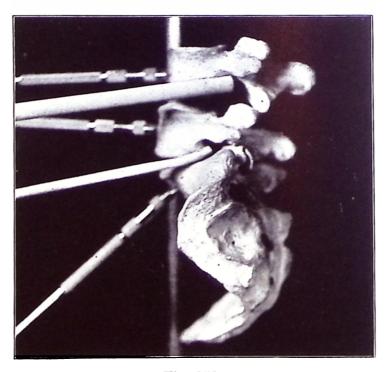


Fig. 656.

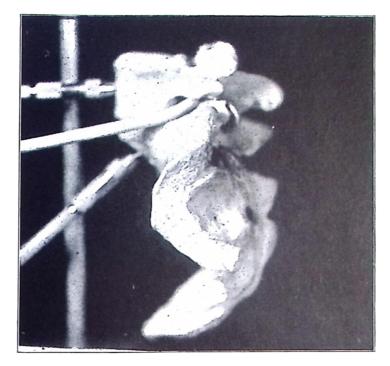


Fig. 657.



Fig. 658.

Fig. 645. 4th and 5th lumbar and sacrum. 4 normal nerves.

Fig. 646. 4th and 5th lumbar and sacrum. Left subluxation with pressure upon nerves emitting thru 5th superior foramen on left and sacrum superior on same side.

Fig. 647. Right subluxation. Pressure upon 5th surperior and sacrum superior nerves on right side.

Fig. 648. Superior subluxation of 5th lumbar. Notice pressures upon both superior nerves of 5th lumbar.

Fig. 649. *Inferior* subluxation of 5th lumbar. Notice pressures between inferior of 5th or superior of sacrum.

Fig. 650. Left superior subluxation of 5th lumbar. Notice pressure upon left inferior of 4th or left superior of 5th lumbar.

Fig. 651. Left inferior subluxation. Pressures upon nerves as they pass thru foramina that is superior to 5th on right side.

Fig. 652. Right superior subluxation. Pressures upon nerves as they pass thru foramen that is superior to 5th on right side.

Fig. 653. Right inferior subluxation. Pressures upon nerves as they emanate thru foramen that is inferior to 5th lumbar, on right side.

Fig. 654. Left lateral view of 4th and 5th lumbar and sacrum. Posterior subluxation. Pressures upon nerves passing thru superior and inferior of 5th lumbar intervertebral foramina.

Fig. 655. Posterior superior subluxation of 5th lumbar. Pressure upon nerves emitting between superior of 5th and inferior of 4th lumbar vertebrae on left side.

Fig. 656. Posterior inferior subluxation of 5th lumbar. Pressure upon nerves emitting between superior of sacrum and inferior of 5th lumbar vertebra on left side.

Fig. 657. Subluxation inferiorly of 5th lumbar, inferior to 5th lumbar or superior to sacrum.

that it is well beyond our possibilities to change it. The fault lies in past generations in permitting the condition to continue. Future generations will be saved these conditions, diseases, and incoördinations, because the present generation of adult Chiropractors will correct the sacral subluxations of the coming generation, of the present children of both sexes, and thereby not permit these conditions to exist in the future. The present generation of children will be adjusted and such abnormal conditions will never be permitted to become chronic and coalesce, therefore the future generation will have no sacral subluxated coalescences. We commend to your attention very careful palpation and adjustment of sacral segments.

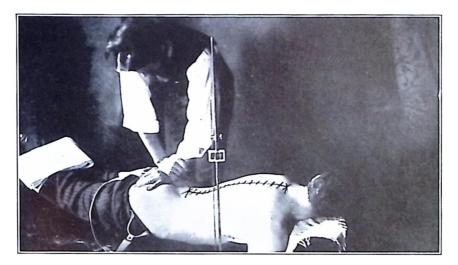


Fig. 659.



Fig. 660.

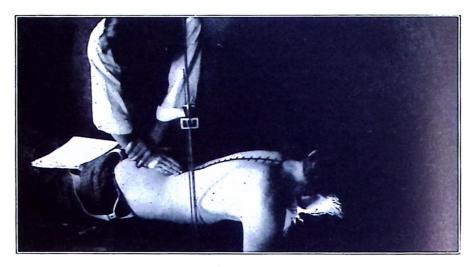


Fig. 661.



Fig. 662.

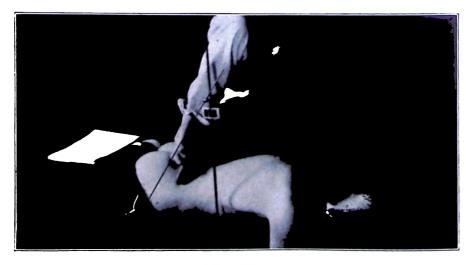


Fig. 663.

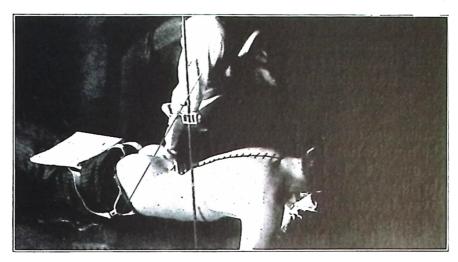


Fig. 664.

Fig. 659. Hands in position adjusting a posterior subluxation of superior portion of sacrum.

Fig. 660. Adjusting *inferior* to decrease the abnormal enlarged sacro-vertebral angle.

Fig. 661. Right one-half of sacrum is *posterior* to its normal position. Adjustment shows right hand as the nail hand and left hand as the hammer hand. Hands are placed on right lateral, superior posterior portion and adjustment given *anterior*.

Fig. 662. The left half is *posterior* of median plane. The adjustment is the same, only sides and hands are reversed.

Fig. 663. Right half is superior. Adjust inferior and anterior upon that side.

Fig. 664. How to adjust left side when *superior* to a horizontal line.

7. How and what makes pressures.

The pressures upon nerves that would take place in the above exist between the 5th lumbar and sacrum by the occlusion of the sacro-vertebral, intervertebral foramina, which would consequently create pressure upon nerves.

8. Functions and organs involved.

The organs involved (and by the use of this term "organs" I mean tissues as well as viscera) would be located in the pelvic girdle, the viscera contained therein

and the buttocks including the limbs, owing entirely to what functional fibres are distributed from these foramina, inasmuch as no two people are alike in that respect. Altho it can definitely be stated as to the region involved.

9. Adjustments necessary to correct each.

The adjustments necessary are based primarily round the same principles as previously advanced, only the application is different. If the right half of the base be superior to a transverse horizontal line, the heel of the hand should be directed upon that side and force be given to inferior. If the left side be the superior then the opposite conditions apply. If the left lateral half be posterior of the median perpendicular plumb line, according to primary and secondary curves, the adjustment is given upon that side, and by so doing you work the entire sacrum upon this axial center, which revolves; thus the right anterior half reaches a posterior normal with its mate, which has been placed anterior. If the superior or base of the sacrum is posterior to its normal curve, the adjustment is given by placing the heel of the hand upon that portion and giving the same quick, forcible adjustment that is necessary to all vertebrae to get the responsive returned functions. When in the last named position the spinous processes of the 5th L. and 1st S. will be found to be spread and the centra are compressed. By the above movement you will return them to a normal equality so that a line drawn horizontally from anterior to posterior would be on a level.

Occasionally it will be found that there is an anterior condition of the 5th lumbar in connection with the same of the sacrum. This subluxation anatomically proves the opposite of the above, viz., approximation of the spinous process and diastasis of the centra. To equalize this abnormality adjust the lower half of the sacrum to the anterior, making of that a fulcrum to raise the superior half. The bearing or stationary base of the fulcrum would be upon the articular surfaces. Care must be used in this latter movement, as the base of the sacrum when subluxated anteriorly is a difficult one to raise, and if too great a force be used on the inferior portion, the liability of fracture might be great, especially in youth.

- 10. How to give adjustments correctly.
- 11. What means, and portions thereof, to use.

12. What diseases to adjust sacrum for.

The diseases that occur from this locality, I am pleased to state, are rare. Many an unexperienced Chiropractor might have occasion to believe that such was the cause of pain in the hips or over that organ itself. Many a subluxation exists in the lumbar, and pains or osteitis of these lower localities are traceable to the lumbar, thus proving that while the effects are in and surrounding the sacrum, the cause is higher.

The names of diseases following these subluxations are characteristic of what occurs in the lower lumbar.

Very rarely a fracture of some one or more of the sacral vertebrae may take place in youth and produce consequent pressures upon nerves and create a permanent disease. These are exceedingly rare and in the history of this school only one case has been met where that condition was attributable.

CHAPTER XXXVI. COCCYX.



Fig. 665. The Coccyx.

- 1. Vertebra and its title. Cc. P.
- 2. Superficial palpation and landmarks.

Fig. 666. Location of the coccyx under palpation. Study its position, whether too far anterior, posterior, left or right.

This is the vestigial remnant of man's progenitors and as a caudal appendage is, as time progresses, gradually being withdrawn from future generations. Past observations are in accordance with such ideas as are demonstrated particularly in the Comparative Osteological Dept. of the Smithsonian Institute, Washington, D. C.

This portion of the spinal column is deeply imbedded in the recesses formed by the proximation of the buttocks and in accordance with the primary and secondary curves of the spinal column is curved obliquely forward, inward and usually slightly upward.



Fig. 666.

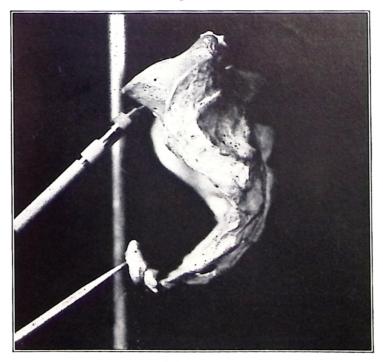


Fig. 667.

3. Normal position and articulations.

Its usual position is easy to determine by palpation. It should, in the normal, follow the same degree of curve as is made by the sacrum, gradually extending around that portion or arc of a circle determined according to length. This varies in all individuals, altho the study of this particular segment as elucidated in *The P. S. C.* Osteological Studio shows the normal has, averaging, three vertebrae. In these respects I am a believer in the Darwinian evolution of man.

4. Subluxation described and illustrated.

Subluxations, or, properly speaking, abnormal positions of this portion, are very common; so much so that very little attention need be given it when located. It would be rare to find a person who has not, at some time or other, had a severe fall and forced the coccyx inward and upward, making more or less of a sacro-coccygeal right angular articulation, even to forming a new articulatory surface of the 5th of sacrum to accommodate it.

6. Where nerves are impinged.

Anatomy teaches that there is one pair of nerves emitting between the last sacral and first coccygeal thru the cornea of each, forming an intervertebral foramina



Fig. 668. Showing patient prone with adjuster's finger under tip of coccyx. The same kind of quick movement is used here as elsewhere established thruout this volume.

which is so large comparatively and which so many people are minus, is the accounting for the few cases where a disease can be accounted for by subluxation at this point.

- 7. How and what makes pressures.
- 8. Functions and organs involved. Location of.

Twelve years of experience, based upon Chiropractic knowledge of the best and broadest, has elicited only a few cases where an adjustment here permanently corrected the cause of the disease.

The cause in question had sharp, stinging, burning pains in the region thereto. Palpation showed great angularity and exceedingly tender around. Nerve tracing developed nothing further superiorly.

Adjustment was made by taking first finger, reaching thru rectum and catching under the bend, a quick pull outward and downward made it snap and the patients are quickly relieved and after one or two weeks of adjustments are well.

CHAPTER XXXVII.

SYNOPTICAL ANALYSIS.

I herewith present a known formula from which any Chiropractor can begin work. This presents his reasoning in logical and known form. I say "known" for every Chiropractor has been compelled to put every patient thru this process, either knowingly or unknowingly, intentionally or otherwise. He could not have reached the conclusions that he has if he had not done so. This is the known process which reaches only accurate conclusions when each progressive step is so thoroly and fully understood that it will be followed accurately and precisely. The P. S. C. aims to so teach each step that there can be no question of the ultimate result at the end. We suggest that every Chiropractor somewhat boil this process down until it reaches his comprehension and then utilize it in his practice. I will say, tho, that the more is used of it the better will be the mental interpretation that the Chiropractor has of his case.

A B C OF CHIROPRACTIC ART

ADJUSTMENTS.

Success can be considered under three heads, with its subdivisions:

- A. Exact Palpation.
- B. Proper Adjustment.
- C. Proper Results.

A.

- 1. History of case (information from patient):
- (a) Name of patient.
- (b) Residence—street, town and state.
- (c) Occupation.
- (d) Have you had any accidents, recent or past, which have made changes in your life to your knowledge? (Yes or No.) Enumerate them. Describe each briefly, when and how you received them.
- (e) Where are your troubles today? (Do not state what they are, how bad or slight.)
- (f) Can you remember of certain places beginning to bother you from a certain date to this? Can you connect certain areas affected with certain injuries? If so, which followed which in successive order?

- (g) Now please state just how each place feels to you. Do not give names or titles given them by physicians.
- (h) Have you stated all the places you feel abnormal in?
 - 2. Analysis (instructions to student).
- (a) Analyze what functions are involved in each area.
- (b) State comparatively which functions are worst and which least.
- (c) Which fibres are involved under pressure in each functional disturbance—"which fibres" means the fibres of each kind conveying special currents.
- (d) State, comparatively, which fibres are receiving the greatest or least degrees of pressures?
 - (e) Now you may analyze the subluxations.
 - (f) Verify them on the body.

Note: The where of the effect will always (if Chiropractic be a science) prove the where of the cause. If determining the analysis by palpation of cause first, then that will locate the where of the effect. In analyzing pay close attention to your composite key in reaching your conclusion.

- 3. Preparation.
- 4. Proper attitude of patient.
- 5. Determine which hand to be used, according to the side you are on. Left hand for palpating on the right side; right hand for palpating when on left side. Left hand is "nail hand" on left side and right hand for same purpose on right side.
 - 6. Locate landmarks.
- 7. Do all palpating where normal or abnormal positioned vertebrae are concerned, with first three fingers evenly placed.
 - 8. Approximate region analyzed.
 - 9. Determine median line.
- 10. Determine which vertebral processes are posterior of the median line. This is done by comparison with the three fingers on three vertebrae, and with a gliding movement on top of the spinous processes.
- 11. Find whether right or left of the median line by comparison on left or right side of the vertebral processes

of the vertebrae above or below. This is done by a running movement of the fingers along each side.

- 12. The spinous processes must be exactly located and spaces discriminated between to ascertain whether it crowds the inferior one; if so, it is an inferior subluxation, in addition to the other positions. If too close to the one above, it is superior. This is determined by placing the center finger on the posterior process and dropping the finger above into the space between that and its contiguous process and the other below and then compare the relative spaces. This is determined, not by a running movement, but by a stationary comparison. The work thus far has been with the patient sitting.
 - 12½. Repalpate for self-verification and accuracy.
- 13. After ascertaining these points and an analysis of all vertebral subluxations have been made and recorded on a chart for that purpose, we are ready to have the patient lie on the adjusting table. In doing this care should be utilized and directions given such as will place them in position with the least possible wrenching of the body.
 - 14. See that the width of your table is correct.
- 15. Observe whether the position of your patient is correct in relation with the adjusting table. Let the shirt or adjusting garment be rolled up and open so that it remains out of your way until you are through giving your adjustment.
- 16. With your patient prone, determine again which hand must find the subluxation that you had previously found when sitting. The right hand palpates when standing on the left side, or the left hand when on the right side. Having approximated the region and located the subluxation exactly, let the middle finger of the hammer hand remain, drawing towards you so that your hand is off, yet adjoining the process, taking away the first and third fingers, placing them under the first. Then by laying that hand close to the back it leaves you an index finger pointing to the subluxation.
 - 17. Draw skin with fingers to position determined.

B. Proper Adjustments.

1. Determination. Determine whether to use nail points 1, 2 or 3, according to Fig. 148. No. 1 is used

exclusively for T. M. adjustments, No. 2 on all Dorsal, Lumbar and Sacrum, No. 3 exclusively for cervical adjustments.

- 2. The nail point of the nail hand that adjusts is now placed in relation to the spinous process that has been proven to be subluxated.
 - 3. Proper placing of the nail point.
 - 4. Proper placing of nail hand thruout.
- 5. The hammer head of the opposite hand is now placed on the nail head of the hand that remains stationary on the neuropophysis.
 - 6. Proper placing of the hammer head.
 - 7. Proper placing of the hammer hand thruout.
- 8. When hands are placed properly determine the direction that adjustment must be made, which is opposite to the character of the subluxation.
- 9. Let hands rest lightly upon the body of the patient; he offers less resistance.
- 10. Let arms be relaxed thruout, although remaining in position.
- 11. Place your body in that direction to economize forces, and get the most out of the least exertion on your part.
- 12. Assume the proper position of your arms; elbows akimbo.
 - 13. The feet rest, firmly planted.
- 14. Determine the stiffness or fragility of your timber.
- 15. Wait until patient is relaxed; see if the width of your table is correct; observe whether the position of your patient is correct in relation with the adjusting table.
 - 16. Concentration of forces on nail points.
- 17. Simultaneous movement of elbows and shoulders.
- 18. Get the drop of the arms and do not raise them first, but afterwards.
 - 19. Concussion of forces, scientifically applied.
 - 20. Adjustic movement.
- 21. Instantaneous removal of the hands from the body of your patient.

22. We are now ready to advise our patient how to arise from the adjusting table so that he avoids all possible wrenching of the adjusted vertebrae. Then advise from one-half to an hour's rest, in which he is prone on his back.

C. Proper Results.

- 1. Impression.
- 2. Response: Instantaneous contraction in region of adjustic movement; Recoil.
 - 3. Correction of subluxation.
 - 4. Enlargement of intervertebral foramina.
 - 5. Releasure of pressure upon nerves.
- 6. Adjustment between Innate Intelligence and Tissue.
 - 7. Restoration of current.
 - 8. Restoration of function.
 - 9. Personification.
 - 10. Health and Coordination.

The following is another form of analysis eventually reaching the same conclusion:

Symptomatology.

- 1. Name of disease.
- 2. Why so named?
- 3. Primary symptoms (chill period).
- 4. Adult symptoms (fever period).
- 5. Recuperative symptoms (sweat period).
- 6. Complicated symptoms.
- 7. Permanent symptoms under medical treatment.
- 8. Functions

Excess ones.

Minus ones.

- 9. How many diseases combined to make this one?
- 10. Is this a "simple disease" or a "combination disease?"
- 11. Equation for each symptom and then for the whole.
 - 12. Nerve tracing

Usual.

Unusual.

- 13. Zones involved.
- 14. Subluxations.
- 15. Combination subluxations.

16. If a simple disease, no combination cause exists. If a combination disease, then a combination cause exists.

The above is briefly explained as follows:

- 1. Name of the disease.
- 2. Why so named.

What is the meaning of the name and why applied to the conditions in question.

3. Primary symptoms (chill period).

A disease does not come on instantaneously, but gradually.

4. Adult symptoms (fever period).

The symptoms which show themselves in the more advanced stages of the disease in question.

5. Recuperative symptoms (sweat period).

The symptoms which show themselves when the patient is recovering.

6. Complicated symptoms:

Symptoms arising from a complication of minor diseases.

- 7. Permanent symptoms under medical treatment. The cause still remaining, there will be the permanent symptoms—a chronic case.
 - 8. Functions

Excess.

Minus.

As taught at The P. S. C. there are nine primary functions, viz.:

M—Motor.
T—Secretory.
E—Excretory.
R—Reparatory.

N—Nutrition.
S—Sensory.
X—Expansion.
C—Calorific.

Y—Reproduction.

Six general considerations which can be applied to any one or all, viz.:

A—Area. F—Force.

D—Depth. O—Cyclic Current.

P-Power. I. A-Intellectual adaptation.

- 9. How many diseases combined to make this one? That is, how many primary symptoms combined to make this one complicated symptom?
- 10. Is this a simple disease or a combination disease?

That is, has it the symptoms of only one disease or of more than one disease?

11. Equation for each symptom and then for the whole.

What functions are involved in each symptom and what combination of functions is involved in the combination of symptoms?

12. Nerve Tracing Usual.

Unusual.

What will be the usual nerve tracing? Take an example of lung trouble. The usual nerve tracing will be from the third dorsal on either side outward and downward under the scapula and around to the region over the lungs. The unusual nerve tracing may be from the second or third dorsal outward and upward over the shoulder and downward and outward under the scapula and around to the region over the lungs.

13. Zones involved:

The usual zone involved in the case mentioned for lung trouble would be the tenth; the unusual zones would be the ninth and the eleventh.

14. Subluxations:

In the case referred to, we would find a subluxation at either of the three vertebrae mentioned, viz., second, third or fourth dorsal in any direction.

15. Combination Subluxations:

In combination with the third, second or fourth dorsal we may find a subluxation at K. P. Also we may find subluxations at the sixth and seventh cervicals and the first dorsal.

The following are unit drills on palpation and all which has a bearing in relationship. If the unit be correct in every respect, as per location, kind, number, direction, degree, quantity, time, force, position, etc., etc., then more than one unit can be added together and give a sum total of given number of units together. We shall so direct the drill that many people can be gone over to see the same unit, thus the equivalent is that of many like or similar units on many people. Thus his viewpoint becomes a broad one.

CHAPTER XXXVIII. PREPARATION OF PATIENT AND CHIROPRACTOR.

The Chiropractor deigns to receive impressions from which he interprets the subluxation upon which he bases the adjustment. If the impression is wrong, then all conforms with that. The Chiropractor does not desire any shirt sleeves, laces, etc., to be in his way or from which he could receive impressions which would confuse his interpretation. Too many extraneous kinds of impressions kills the concentration of the one most necessary. For instance, you are palpating, trying to read, listen and sing all at once—do you succeed? Not very likely you accomplish any one any too well. Remove all clothing from around the lower arms. Coats can be worn providing the sleeves are large and permit rolling back to above or just below the elbow. In assuming your position for palpation do not have your palpating hand close to your body; if you do, you receive extraneous impressions in your arm which will upset your palpation.

Upon the part of your patient do not have any clothing in the way. It is necessary to have some clothing on ladies, but if the adjuster and patient be men, none is necessary. If the patient be a lady and the adjuster is a lady or man, I WOULD have only a kimona on from above the waist, reversing its position, having the rear open only. Have the kimona long enuf so that the lower edges can be tucked in under the rear skirt band. Have the flap loose so that at least one tuck can be taken on each side; this leaves the spine all open, with nothing to interfere with rapid and accurate work. Have no vests being worn. They always bunch and must be shifted and are a nuisance at all times. When ready, loosen the skirt band, tucking the corners down and under on each side. When raising shirts (providing you permit your patient, of either sex, to have them worn) always have them rolled up underneath. They will then stay in place, will not unroll or drop into your way. Never atteempt to do any palpating or adjusting upon anybody, large or small, old or young, thin or fat, with the clothes on; even a shirt or silk kimona will be a hindrance to your work.

Two common reasons will suffice: 1st, your work all depends upon accuracy, depends upon how accurate your palpation is; that depends upon the interpretations you make, upon what impressions you receive. Clothing helps to deaden the sense of feeling. We all have enuf to do now to tell the position of bone, thru the skin, let alone trying to get thru the fat skin of many fleshy people. It would be and is bad enough under those circumstances, let alone the attempt to try and get an accurate impression thru all the clothing.

2d. When placing your nail hand on the skin of the patient, who is prone and ready for an adjustment, you must sense the degree of resistance at that particular moment, and this can only be accomplished by the keenness of interpretation following the keen receptivity of impressions, which can only be best induced by skin to skin contact. The more clothing placed between the two the more it deadens one to the loss of the other. Therefore the preparation of the Chiropractor and patient is to so remove all unnecessary clothing to a point where the bare skin of the hands of the Chiropractor come in contact with all such portions of the back of his patient, without the addition of unnecessary extraneous impressions interfering with the accuracy of interpretation of what, where, how and why of everything demanding his attention as a Chiropractor.

Folds in the underclothing, seams, scars, tumorous growths, etc., etc., all go to confuse accuracy. I would say, without any hesitation, that I positively would not be guilty of doing any patient such an injustice as to attempt to give an adjusment with any clothing under my fingers or hands, regardless of how thin or thick. It is the worst offense any Chiropractor could commit to a patient who comes to him for expert and accurate work.

DRILL NO. 1.

In this drill have the teacher tell to the class just what he proposes to do, how he will do it, and why. Have him *demonstrate* and call attention to each detail as he does it, then let them proceed.

In the process of laying down a foundation for palpation, we will assume that we have a class of 60 students, so that it can be divided into 3 sections of 20 each.

The object will be to have 20 to represent themselves as patients, 20 as verifiers, and 20 as the Chiropractors. This number will be good for more or less, so that it pairs off in triplets. The person who is the patient must at all times be a student, so that he gets the viewpoint of the patient in this transaction. The one who verifies the work must prove himself able to verify and thus he gets the viewpoint of the teacher in this transaction, and the Chiropractor or the one performing the work gets the viewpoint of the student. The one over all of these is the master, patient, verifier and teacher, and questions unanswered or unproved must be referred to him for final judgment during the class session. His duty will be to observe the whole class, the duty of the verifier will be to take down the verifications as they are given in the tabulated form, keeping a record of patient's name, student's name and the result of student's work. your patient has been prepared for a spinal analysis, the first problem that you have to face is permitting the patient to assume a normal position in a sitting posture as would be determined by subluxations existing in his spine. In this drill let one-third of your class, or 20, line themselves up, backs facing the class of 20, and ask them to assume odd, peculiar, and contracted, and intensified relaxed positions. Embody into this work an air of seriousness. Having assumed these peculiar shapes, then line 20 students behind the 20 patients; let each verifier, with pad in hand, note what was said to be wrong in the attitude of each and in what way that changed the position of a part or parts of the spine. Take it for granted that the first patient on the left is number one; we also call that Chiropractor number one. He states his objections to the position of that patient to verifier number (1); then having done so, the class of 20 have noted at least 20 objections on 20 people, the teacher asks, "Are you all thru?" and gets the usual reply, "Yes." Then Chiropractor No. 1 passes to patient No. 2, whereas Chiropractor No. 20 passes to patient No. 1 and each then state their objections to the verifier in front of him. In other words, when we are thru, Chiropractor 1 should have on his list at least 20 objections to 20 wrong positions of 20 patients. This drill having been gone thru, then there should be in the last

analysis, 20 objections on patient No. 1, and they should all be alike, and should also have 20 objections on patient No. 2 and they should all tally and the same with each patient thruout. In this way, each Chiropractor has been enabled to study 20 abnormal positions or sittings of palpation for analysis. Thus he sees at least 20 abnormalities in one day, instead of one. If deemed prudent, this drill could be repeated the 2d day, but reverse the patients and Chiropractors, letting those who are the Chiropractors today be the patient tomorrow. The patient who is himself a student gets the consideration of the viewpoint we are after, as follows:

1st day (A) Chiropractor (B) Patient (C) Verifier.
2d " (B) " (C) " (A) "
3d " (C) " (B) "

The verifiers tally sheets will be as follows on first day:

1st Dations	Od Dottont	24 Da4:4	9041 Dations
		3d Patient.	20th Patient.
1	20	$19\ldots\ldots$	$2\ldots\ldots$
$2\ldots\ldots$	1	20	3
3	$2\ldots\ldots$	1	4
	3		5
	4		6
	5		7
	6		8
	7		9
	8		10
10	9	8	11
11	10	9	12
		10	
		11	
		12	
		13	
		14	
		15	
		16	
		17	
		18	
	10	10	

DRILL NO. 2.

In this drill have the teacher tell to the class just what he proposes to do, how he will do it, and why.

Have him demonstrate and call attention to each detail as he does it. Then let them proceed.

It is equally as important to impress upon the mind of the Chiropractor his position in this matter. Having observed now and permitted his patient to assume what is the proper and normal position for palpation which is to let him sit on the chair, stool or bench, and assume, what is to him, a restful posture. Ask your patient to be seated, palpating his spine as you find him, without any changes. In palpating on atlas it is always essential to have the student stand directly behind his patient, so that the median line of the Chiropractor is anterior or posterior of the median line of the patient. Should the Chiropractor stand too much to the left or right of the median line, he does not get an accurate conclusion as to whether that atlas is left or right, and without human accuracy there is but "maybes." In this drill have 20 patients in a row, backs facing 20 Chiropractors. Have in front of the 20 patients 20 verifiers facing the face of patient. Let that verifier have a pad and jot down whether or not each person that comes in front of him stands in median line or not. To do this the verifier must himself stand in an anterior median line with his patient. The same change of positions is gone right thru with. The man who was Chiropractor No. 1 with patient No. 1, after he has made his decisions, passes to patient No. 2, No. 3, Meanwhile, at the end of this drill, each verifier shows 20 persons that have appeared before him and will show just which ones were in median line and which were not. For instance, out of a class of 20, 5 Chiropractors might have been lax in standing in front of each of their patients. The results of those 5 will show on 20 verifiers' reports that they were not careful. other words, on every slip, as we go right thru it, will show that man did not tally. This posterior position drill upon the part of The Chiropractor can only be applied to an atlas and can be put on three different days so as to introduce the three different squads. this drill we throw upon the verifier a responsibility, we throw upon the Chiropractor the viewpoint that he is being watched and checked, and upon the patient the knowledge that he can feel the difference between a man who is more left or right than median. When he is to

the left of median line, he will unconsciously feel with more pressure with the left hand upon the left transverse process than he does with the right, thereby reaching an unequal conclusion; the same can be said if he is too much to the right. The idea of getting median with his patient is to get a median reach with each arm, with a median pressure on each side, and the conclusion will be reliable and accurate.

In my travels and investigations here at The P. S. C. I have been surprised to see the apparent laxity that Chiropractors and students give to this detail in palpating atlases. This is the most important vertebra in the spine, one upon which a great deal depends, more than upon any other one vertebra. You should never leave any spine until you have convinced yourself beyond the question of a doubt that you have found both transverse processes and have compared their relative positions. You should watch yourself and grow more careful as you proceed in time.

DRILL NO. 3.

In this drill have the teacher tell to the class just what he proposes to do, how he will do it, and why. Have him *demonstrate* and call attention to each detail as he does it. Then let them proceed.

In palpating the axis, it is well to do so from both For instance, have your class line up as usual. Have the 20 Chiropractors standing upon the left side of the patient, let them place the right hand upon the spinous process of axis and left hand on patient's forehead-more to show position now than anything else. Once that is done, have the Chiropractor move to the right side of the patient and reverse hands. It is advisable in this drill to have the left hand, when standing on left side and right hand when standing on right side of patient, braced against the forehead. Having had one Chiropractor show the correct posture on both sides of patient No. 1, let him do same with No. 2, thus when a class gets all around in making the circle, each Chiropractor will have palpated 60 axes, or twice on each one, one from left side and the other from the right. In this way we teach the idea of position, which has a value. While giving this drill, and in fact all others, I

would impress on the student's mind the necessity of facing his fingers letting his eyes look at his finger tips, and let there be quietness in the room, for a mind centered upon the impression received from the finger will induce a greater interpretation of what is received. We cannot be too accurate in the way of receiving impressions, nor can we concentrate too much upon the interpretation we receive, for it is upon the strength of these two we are later on to give our adjustments. This drill can also be reversed on the 2d and 3d day. Let what was the patient of yesterday be the Chiropractor of today and the Chiropractor of yesterday be the patient of today.

If the taking of palpation of axes from both sides is too much to accomplish in any one hour session because of the class being too large, then divide this into two day sessions. Palpating from the left one day and from the right on the second, but by all means get both side work accomplished before passing on.

DRILL NO. 4.

In this drill have the teacher tell to the class just what he proposes to do, how he will do it, and why. Have him *demonstrate* and call attention to each detail as he does it. Then let them proceed.

The class can be arranged in a drill for position in palpating the dorsal vertebrae the same as they were in palpating for axis with the exception that the left hand, when standing on the left side of patient and the right hand when standing on the right side of patient will be used more or less on the front of the sternum, more to keep the body from swaying backward and forward when the Chiropractor is exercising the varying degrees of pressure. For instance, when you are palpating the dorsal region, you are displaying more or less varying unconscious pressure. There is pressure on when you feel and pressure off when you lift your hand to again go over the same area; thus you find that the body will sway backward and forward, and the hand on the chest prevents this. While but a detail, it is these details that make a more even impression upon the finger tips palpating. Let each Chiropractor go right thru the 20 patients on this drill and on tomorrow reverse this order.

The verifiers are keeping an accurate record of the work as accomplished and so stated by the 20 Chiropractors. These papers should be reviewed by the master palpater and a consensus of the work of each student taken and tabulated away in the files of that day's work. This work should be filed in Globe-Wernicke sections, day by day, in pasteboard cover files. Thus a review of the art work of any one or more students could be taken at any time. This shall be prima facie proof of the efforts of that or those students to make good. No examination or test can be given of art except as art is displayed and this art will be more accurate and more just proof of the care of the student than a final test on one certain day in the last of his year's work.

DRILL NO. 5.

In this drill have the teacher tell to the class just what he proposes to do, how he will do it, and why. Have him *demonstrate* and call attention to each detail as he does it. Then let them proceed.

In the next series of drills we propose to show the student the exact, accurate count and absolute location of each unital vertebra, so that he could not make a mistake in number if he desired to do so. We will do this by singling out one vertebra every day. Suppose the vertebra under question is the 4th dorsal. The master palpater shall go to each one of the 20 patients, locate the 4th dorsal on each, mark it on each with an indelible line which shall be horizontal and to the side of the spinous process in question. Having done this with the 20, the Chiropractors shall then begin a count, from above downward, and see if this count agrees with that of the expert. If it does not, then he should not leave his patients until it does. He should at least try on that person not less than five times; if then he still fails, he should so report to his verifier. If 20 Chiropractors should all fail to agree with the expert, it will appear that the mistake is either his or else there is some peculiar abnormal feature that he has detected that you have In such event he will then call your attention to it to prevent such as this occurring again in the future. Supposing him to be wrong, he will acknowledge the same and tell you whether he did it purposely to fool

you or not. We are taking it for granted that in all events should a student not agree nor does not find the process that the fault is his own, and in such instances the student will be honest with his own conscience and so admit to the verifier. Should he say he did when he did not, it will be but a case of fooling himself, not anybody else. We shall aim to so thoroly establish this work so that he could not make a mistake, and in locating or the singling out of a vertebra by the student his verifiers must keep a record of the opinions or decisions of each person as we go along in these drills. Having gone thru this drill very accurately, wherein the attempt has been made to have the student agree with the master palpater, then reverse the action; let the student pick out his own 4th dorsal thruout the 20 patients. The verifier will then keep a close lookout for stragglers in those who will pick above or below the true location. Some recognized and individualistic landmark can be found which will tell the story absolutely, from which there should be no fluctuation. Your reports will show the standard of the class or of any one individual in this work. Have the Chiropractor today locate on patient No. 1 the atlas. We are relying absolutely upon the fact that the Chiropractor is going to be honest with himself in his replies. For instance, at 1 the 20 Chiropractors will be palpating for the atlas of 20 patients, and after palpating a reasonable length of time he shall report to the verifier whether he did or did not find it. That report will be jotted down by the verifier on his slip, then the Chiropractor No. 1 moves to patient No. 2, attempts to find or does find the atlas and makes his report to verifier; then steps to No. 3, attempts to find or does find it, making his report. Between them, each one of the 20 has been enabled to palpate 20 atlases in one day. It will show to the master palpater whether any one student is lax in his class standard; lacks concentration and feeling abilities to find an atlas; for the statements of the 20 people right thru will approximately tell every weakness of every one pal-This system brings not only to the mind of the Chiropractor, but also to that of the verifier, the weak individuals. It will show in what particular unit work they are weak, and by finding their weaknesses we can strengthen them. This work can also be carried in three different drills by reversing the squads. Then each one in his turn gets opportunity to perform work on the other ones.

This drill, in common with those gone before, will be given with each vertebra in the spine, even including palpation of the sacrum and coccyx. In this latter respect I would not permit any prudishness to exist, for once did that habit or feeling creep in here it is bound to do so when in the field. To familiarize yourself with the truth of conditions under the expert directions and advice of an expert is to become proficient before you enter the field—it means that you are an expert when in the field. There being 26 vertebrae to be thus located, and a left and right side, easily two months could be spent on this phase of work alone. While appearing tedious and an endless task, yet the fact remains that learning to play a piano is not gained in an hour or two of work—it represents years of diligent perseverance to accomplish anything, i. e., providing you desire to be an artist on a piano or a spine. To be a Chiropractic artist is to work for months on the perfection of each unit work. When once they are placed together you will accomplish much that proves you an expert. In palpating the coccyx try to determine the exact position of each coccygeal vertebra and how many there are, aiming to take the same care that you would with the lumbar or dorsal vertebrae.

I am sorry to say that up to this time the sacrum and coccyx has been too much neglected in our palpation classes because of false modesty or prudishness upon the part of a few squeamish old maids or a few maiden ladies who think more of false hair than the exposure of their backs for the sake of health to themselves and future womankind. We have never had much of this contention upon the part of the male element, not because of their boldness, but because of their minds seeing the practical necessity for this work.

DRILL NO. 6.

In this drill have the teacher tell to the class just what he proposes to do, how he will do it, and why. Have him *demonstrate* and call attention to each detail as he does it. Then let them proceed.

We now take in the general palpation of all the balance of cervical, dorsal, lumbar, sacrum and coccyx. We will learn to reverse sides, as well as squads. For instance, your 20 verifiers, 20 patients and 20 Chiropractors are in evidence. The verifiers have their pads, the patients are ready to be palpated, and Chiropractors willing to palpate. With the left hand placed on the chest of patient, the Chiropractor standing upon the left side of patient, he is ready to attempt to find or to find the 12th dorsal spinous process, his report shall be given to the verifier. He did or did not find the 12th dorsal spinous process. He can now proceed to patient No. 2, stand on same side with same position and same object in view and so reports to the verifier. Thus one Chiropractor gets the opportunity to palpate for the 12th dorsal spinous processes of 20 in one class. When it is remembered that no two vertebral columns, vertebrae or spinous processes are alike, that no two processes on any one person are alike, then it will be seen what a large clinical opportunity our students will have had, each day, by the time he gets thru with 20 patients. Stepping as he will quickly from one patient to another, he will need keep his wits about him, his mind ever alert to the keen differentiations that discriminate between the normal and abnormal. If the verifier's report shows that 20 students have "fallen over themselves" and are unable to find the 12th dorsal spinous process in any one individual. This will go to show that that spinous process has probably had its epiphyseal tip fractured. If this be a fact it is a fault of the patient, not our chiropractor, but it brings out points, and so much more care should be shown to that patient. If the report show that any one man has failed right thru, then it will mean the fault was not in the patient and more care must be taken by the Chiropractor.

DRILL NO. 7.

In this drill have the teacher tell to the class just what he proposes to do, how he will do it, and why. Have him *demonstrate* and call attention to each detail as he does it. Then let them proceed.

The next day the verifier, patient and Chiropractor change positions, with the exception that instead of pal-

pating for an axis while standing on the left side, let him palpate for it on the patient's right with right hand on forehead, left hand palpating. Thus he can go thru The object of reversing the position is to more thoroughly impress upon the Chiropractor's mind the necessity of drilling and training the senses of touch with both hands equally and alike, and this drill in itself can be divisible into three days' work, wherein the squad changes, so that each can get an equal large amount of spinal research. From now on we can go right thru this drill down the spine, taking in each and every vertebra, with the exception that I would have the verifiers sitting on the opposite side of patient from which the Chiropractor is working, i. e., if Chiropractor is on right, have verifier on left, and vice versa, and have him tally and see whether the 20 Chiropractors always get the same vertebra in the approximate count. For instance, your director in the class calls for an accurate location of 4th lumbar today. There is only one 4th lumbar in each person. That class work should be so thoroly drilled that at the end of the class session it could be said that 20 Chiropractors found the same identical vertebra in 20 patients. In a class of 20 Chiropractors working on 20 patients there should be 400 verifications of a 4th lumbar without one mistake. class work can be gotten down to that point, so that 20 verifiers can say "the 20 Chiropractors who appeared before me to find the 4th lumbar vertebra in patient No. 1, all agreed and there was not a single exception," and then verifier No. 2 with patient No. 2 can say "the 20 Chiropractors that appeared before me in searching for 4th lumbar agreed on the same identical process," then that can be called exact unital and class work. should be expected that there will be more mistakes made upon the superior cervical vertebrae than in the lower dorsal or lumbar; in fact, the farther down the spine we drill the more accurate the work should be, so that when the 5th lumbar is reached there should not be one mistake. We realize that the dorsal and lumbar are the easiest to palpate, and the cervical (including atlas and axis) and the coccyx are the hardest, hence when once this drill has been completed, it would accomplish much good to start your class over again and at least let them

repalpate the entire cervical region in the same drilling manner as heretofore given. Should there be a difference of opinion as to which spinous process is the 4th lumbar process, let the verifier note on his tablet the fluctuation. He might note that some of the students would locate the 3d as the 4th, others locate the 5th as the 4th. Also let him mark in his tablet so as to indicate three perpendicular columns from above downward, numbering 3, 45, and then have 20 lines horizontal to cross them. On each of these lines he places the names of the 20 Chiropractors who appeared before him and in the columns on the right check up which one of the spinous processes the student called the 4th. (See illustration B.)

A comparison of the 20 quotations of the 20 verifiers will prove every weakness of each student in the class palpating. It would be of good judgment to stick to each one of these vertebrae from the axis, including the sacrum and coccyx, until the work becomes so accurate they will all agree as to which is the 4th lumbar. For should you or I make a vertebral record or a spinal analysis of a certain patient and name the various subluxations, and especially the 4th lumbar P. R. S., and this patient should desire to leave you or my adjustments or to move from town to town, taking your or my record with him and call upon some other Chiropractor, I want him to be so thoroly accurate that his palpation of all, and especially the 4th lumbar, will tally with mine, for a mistake in count will modify all the results that he may or may not give, whether I am right or wrong. It is taken for granted that the verifier is accurate in his conclusion as to whether party No. 14 found the same identical spinous process as No. 13 or No. 15. In this work it will be possible for the verifier to have a pencil or ink mark of any kind on that or near to that spinous process, so long as the Chiropractor can see the mark. To have such a mark and permit the student to see it would mean that he would count down to that mark and stop and declare that he had the one under question. This throws him onto the resources of his superior and not on himself. If you do not introduce the mark system, then the student can look, but if you introduce the

ILLUSTRATION "B."

1				
2				
3				
4				
5	Jones			
6	Brown			
7				
8				
9	Smith			
10				
11				
12				
13			-	
14				·
15				
16				
17				
18				
19				
20				

marking system then you must also introduce the blindfold system upon the part of the Chiropractor. In this drill every Chiropractor in line would be blindfolded, his conclusions would be reached by count and count only. This movement has a double advantage, his impressions will be more thoroly interpreted, and his conclusions more accurate. I would introduce considerable of this work in all drills, as its effectiveness is beyond question. Take the well known instance of the keenness of feeling upon the part of the blind man.

DRILL NO. 8.

In this drill have the teacher tell to the class just what he proposes to do, how he will do it, and why. Have him *demonstrate* and call attention to each detail as he does it. Then let them proceed.

In the above drills we have had 3 squads, each squad of which can change their official position and each of which can work from the left and right side. will be seen that for the accurate location of any one vertebra all 20 people in the squad of 3, 6 days' time could be spent very profitably. As to whether a vertebra is subluxated or not, depends purely in the last analysis upon how accurate the interpretations are as received from given conditions existing in the patient. In other words, he places his hands upon the spine of patient. Whether there is one or more subluxations or not depends entirely upon the mental conclusions which he gives to what he receives. It is consistent that he should feel very accurately in palpating for an atlas subluxation. We are assuming that by this time he has made it habitual to assume the right posture of his patient and himself.

Have the class divided into squads of 3 as before, have each of the 20 Chiropractors palpate the one atlas of each patient and see if in his opinion there is an atlas subluxation or not. He shall so report to his verifier that "there is" or "is not" a subluxation of the vertebra under question. Let the Chiropractors from No. 1 to No. 20 perform the same act with all the patients simply to, at this time, determine whether there is or is not a subluxation. Having determined there was, then on the 4th day thereafter let him feel that atlas and report to

his verifier what kind of a subluxation he finds in each patient as he goes the rounds, then let the report of 20 verifiers tally on a conclusion. I said "4th day thereafter," for I am considering that it takes 3 days to reverse the squads. Thus we have divided the recognition of subluxations of atlases into two prominent drills, one was the determination whether there was or was not, and in the 2d what kind of subluxation it was. Take this same drill thruout every vertebra of the entire spine, first determining whether a single vertebra is subluxated or not, and on the next day determine what kind of subluxation. In all this work the rule is the comparison of 3 by 3; that is, the use of 3 fingers by the 3 impressions with 3 ideas weighing the relative positions of 3 vertebrae. Knowing that few people can do more than one thing at a time until habituated, we are now training ourselves to do two more than one.

DRILL NO. 9.

We are now ready to divide the spine into sections, 3 vertebrae in each, and study them relatively. Divide your class into squads of 3 verifiers, patients and Chiropractors, drilling on both sides, left and right, so that the Chiropractor may learn to work from both sides. Having passed your judgment and weighed the report of the verifier as regard to progress upon subluxations of atlases, we will next proceed to the axis. Chiropractor standing upon the left of patient, let him palpate with right hand and pass an opinion as to whether the axis is subluxated or not, his report going to his verifier. Pass from patient No. 1 to No. 2, up to and include patient No. 20. There should be at the end of that class 20 universal opinions from 20 Chiropractors upon a given 20 conditions of 20 axes. These reports should be gone over, the work of each Chiropractor tabulated following each day's work and then that person's work weighed and daily class comments made upon the same.

I am not aiming at this or any other time in this brief review of a system for palpation to introduce all the minor details, for that is purely within the adaptative judgment of our director, but I wish herein to lay a foundation by which a large class can be handled and

the report proved by themselves to be accurate conclusions.

This system will be utilizable for any even number of people, as they triple off. A class of 120 (divisible into threes) could be handled as well as 30. The larger the class the more individual work does each get, his sphere of observation becomes more thoro. As the class increases it may be that one hour would not suffice for Chiropractor No. 1 to get thru to patient No. 40, but you could begin tomorrow where you left off in the former drill. In the long run the more unit work indulged the better will be the consensus work.

DRILL NO. 10.

Having proceeded with his systematic work, he can then direct the class by taking up the same drill as before upon each vertebra. Let the Chiropractor pass his opinion upon the 3d dorsal yesterday, 4th dorsal today and 5th dorsal tomorrow as to whether it is a posterior subluxation or not, dealing with only one at a time in one drill. If he thinks it is posterior, let him so report to the That Chiropractor then passes to patient No. 2 and so on to the 20th, passing his individual report as to whether the 4th dorsal in all those particular ones contains a posterior 4th dorsal or not. Thus the report from verifiers will in itself be an accurate guide as to a consensus of opinion, and this work will establish itself as a final record, having been established upon a uniform unit system, and these records in themselves shall be the proof of the quality and character of the work of the student. The paper used by the verifier shall be furnished by the School and the records shall be the property of the School and the work itself shall be the final conclusion of the fitness of passing final examinations as to your artistic ability as a Chiropractor.

You will notice that I said "3d dorsal yesterday, 4th dorsal today and 5th dorsal tomorrow"; as to this an explanation is due, for it will appear that I have contradicted the general order of reversing the threes every day. I have done this, for it is immaterial whether you take a set of three squads right thru the individualistic work on the spine in the form that you started and then reversed the squads or whether you change the squads

every three days. Which way you may desire to proceed is entirely within your discretion—the final result is the same. Do not proceed, tho, until each squad has had the opportunities to perform the duties of the others clear thru each vertebra. This will take time, but it takes repetition plus diligence and perseverance with time to establish any action as a habit in the mind of any person, be he the most brilliant, methodical or lay-minded stu-No one need think because he has a thimbleful of education more than any one else that he can "catch on" and hang on any more rapidly than any other. this work each is presumed to work on a common basis. If there should be a student who "knows all about the idea and can make it a fixed habit in a day," then repeating it will but fix it that much more in his mind, and his very example will help others who are watching him.

DRILL NO. 11.

After having picked out the individual posterior subluxations, then have each member, at one time, go over the entire spine of each patient, picking out all the posterior subluxations in the entire spine of that patient. The verifier sheet will show anywhere from 3 to 8 or perhaps even 10 posterior subluxations in that spine. Let this analysis also include the sacrum and coccyx. It is not likely that you will find a posterior coccyx very often, but it is well to familiarize the students with the possibilities and the habit of looking for it, for some day he will find it.

DRILL NO. 12.

In this drill have the teacher tell to the class just what he proposes to do, how he will do it, and why. Have him *demonstrate* and call attention to each detail as he does it. Then let them proceed.

Having gone thru the spine in locating whether each vertebra contains a posterior subluxation or not, then take each vertebra in determining left subluxation and follow that with another, and find a right subluxation, then superior and inferior; and, having taken each of the four cardinal directions at a time as a fundamental, then introduce the combination of directions, such as posterior superior, posterior inferior, posterior left, posterior right, posterior right superior, posterior right in-

ferior, posterior left superior, posterior left inferior and posterior. This work in itself will consume some months, but the very character of the unit detailed work performed by the Chiropractor will be under the keen observation of a fellow student, therefore be its own criterion. If the Chiropractor is sincere and wants to do things just right, he will also issue to the verifying student an honest and accurate oral report of what he does or does not find. These drills embody the *general* cursory palpation work, altho there is still to come many suggestive drills and additional tests which will prove more accurate the location and character of subluxation which perhaps more common palpation has failed to find. Among the most prominent in this respect is the knowledge of subluxations as gained thru comparisons of and with transverse processes. Sometimes the transverse process fails to do all we desire, viz.: show us the proper comparative position—what condition the balance of vertebrae is in. Put your class thru a systematic drill on locating the transverse processes of every cervical vertebra, if possible—at least let the class members tru to find as many transverse processes as he possibly can, on the left side first and then the right side of the cervical vertebrae of each patient of the 20 in systematic order. and let him so report to his verifier what he has found. Then proceed with the same analysis on the right side. changing your squads as before enumerated. Having passed this work in the cervical, proceed to the dorsal. Having noticed the transverse processes on some 20 people, the Chiropractor has been enabled to learn peculiarities of club-shaped transverse processes, deeply imbedded processes, fractured epiphyses, bent processes, processes posteriorly and superiorly subluxated, etc.; then teach him to compare relative distances between transverse processes. On one drill teach him to merely locate each one and to be certain that he did locate it, and that he knew what and where he located it. After he has found it, then let him compare its position with the one above and below and those on the opposite side and see whether it is right or not. In fact, carry the study of transverse processes thru all the drills that you have given to the spinous process. While we do not place the relative value to the transverse processes as we do to

the spinous, yet its value, for comparative purposes, is equally as valuable and must be known thoroly for this purpose. A fire department may be used only once in a year, yet its equipment and detail must be as thoro and as perfect as the in daily use.

DRILL NO. 13.

In this drill have the teacher tell to the class just what he proposes to do, how he will do it, and why. Have him *demonstrate* and call attention to each detail as he does it. Then let them proceed.

Having determined these points regarding the comparative location of transverse processes, have the class understand what would be meant by a subluxated transverse process; how, when a vertebra is subluxated, it will correspondingly change the position of its corresponding transverse processes. When there is a prominent posterior subluxation, as revealed by a spinous process, show how the transverse processes of that same vertebra are also more prominent than the transverse processes of the vertebrae above and below. is very accurate and will consume some months in covering the ground in showing up the following subluxations as revealed alone by the transverse processes: posterior left transverse processes, posterior right, posterior superior, posterior inferior. The unit system of accumulating ideas, while appearing tedious, is invaluable. Many times the spinous processes of our patients are bent (due to fractures in youth), the twisting of cartilaginous spinous processes while the processes were cartilage, and many other conditions too numerous to mention. I know that bent spinous processes occur more often than we at present know because of the superficial location of the spinous processes and because of their slender form. We have long recognized bent spinous processes, from a knowing standpoint, but because of a lack of class facilities we were unable to put it on in class work or drills before. Having carefully drilled the minds, fingers and eye regarding transverse processes and thoroly comprehending their importance as an analytical feature in determining the positions of subluxated or normal vertebrae, we are then ready to put this together with the knowledge gained regarding spinous

processes. These two methods will clinch the maximum of outside knowledge with a minimum of possible loss of accuracy. To even go farther now and determine more accurately means to feel, see and reason upon conditions inside. This can be done quite accurately with the present additional method of the spinographical outfit such as *The P. S. C.* has installed.

DRILL NO. 14.

We will compare the spinous processes of one vertebra with the transverse process of the same vertebra and thus compare the relative distance of one from the others until we reach a conclusion as to whether the spinous process is bent or not. In this drill we will have your class divided into squads of 3, the same as before; the Chiropractor will note his observations as to whether the spinous processes of any one vertebra is or is not bent. By carrying this system thru each vertebra in the spine, beginning with the axis and applied to every vertebra that has "feelable" transverse processes, means to gain more knowledge of exact conditions than has heretofore been possible. I would suggest that one vertebra be taken for comparison each day. For instance, one Chiropractor in your class today passes his opinion upon the spinous process of the 4th dorsal in 20 people and so records his opinion with the verifier as to whether the 4th dorsal spinous process in patient No. 1 does or does not contain bent spinous process. The student can reach this conclusion by accurate comparative knowledge of what he learned in your clinic drill weeks ago in the present location of transverse processes in comparison with the knowledge of spinous processes as learned then.

ILLUSTRATION "C."

In these two sets it can be shown that a difference of opinion exists between students 1 and 2 on the 3d and 4th lumbar vertebrae.

Student 1 Patient 1 Verifier 1	Student 20 Patient 1 Verifier 1
1	1
2	2
3	3
2 3 4	4
5yes	5yes
6	6
7	7
1	1
$\overline{2}$	
1 2 3	2 3
4———yes	4yes
4 yes 5	5
6	6
6 7	7
8	8
9	9
10	10
11————————————————————————————————————	11————yes 12
1	1
9	1
1 2 3	1 2 3yes
<u> </u>	
yes	4
5	5
1	1
yes	$\overline{2}$
	~

DRILL NO. 15.

In this drill have the teacher tell to the class just what he proposes to do, how he will do it, and why. Have him *demonstrate* and call attention to each detail as he does it. Then let them proceed.

It is a rare thing to find a fractured epiphyseal tip of the spinous process. We can be easily fooled in our conclusions, as to a subluxation, by this fact if we don't know of it, or be on our guard, and not fooled if we know its presence. We will now have the class pass their opinion as to whether the spine—for instance, the spine of various sections (cervical, dorsal, lumbar, sacrum) of the vertebral column—does or does not fluctuate in this respect. This can always be detected by comparison of the transverse with the spinous processes. Should you, in running your fingers down the spine, come across one process which "sunk away in" you would be inclined to list it "an anterior subluxation," but such it cannot be, therefore there must be another reason for the presence of such conditions. Perhaps you have a posterior subluxation of the vertebrae above or below, perhaps a fractured spinous process or perhaps a fractured epiphysis—all are possibilities and often occur. You must now determine which it is by comparison with the immediate vertebrae above or below, and this by comparison of all processes as listed above. I would begin with the cervical as one set, the superior 6th dorsal as the 2d and lower 6th dorsal as 3d, the 5th lumbar as 4th and the first two sacral vertebrae as the last section, and have opinions listed by the veri-(See Illustration "C.") These squads in their turn should be reversed and each one given the benefit of this particular important drill.

DRILL NO. 16.

Having reached these various and detailed conclusions, we will proceed to take the spine up in sections, including the occipital, atlas and axis as the first set of 3, the atlas, axis and 3d; then 3d, 4th and 5th cervical, continuing in this manner thru the entire column, forming our conclusions upon all the enumerated conditions given before permitting the verifier to observe the posture of patient—whether right or wrong, whether the Chiropractor noted same. Also note the position the Chiropractor has, whether right or wrong, and as to whether he noticed it. Let the verifier note whether the patient was accurate in his account or not as to each vertebra in question; whether he noted the kind

of subluxation found; whether he used the correct palpating system or not. By this time all of these details should have been so thoroly drilled into the makeup of the student that it would be such a fixed habit that it would be hard for him to so direct his movements to do these acts wrong if he should so wish. The Chiropractor, knowing that he is being observed, will take more care in this work. The verifier, feeling that the responsibility of all conclusions rest upon him as to whether the Chiropractor is being misjudged or not, will use the utmost care in being just in his conclusions and oninions. Let the verifier note whether the student studied or tried to note transverse processes in this connection to reach a conclusion as to whether the spinous process was bent or contained a fractured eniphusis or not.

DRILL NO. 17.

Having reached these general set conclusions, let us again specialize the spine in more general sections, such as the 7 cervicals in one set, and reach all the multiple conclusions we can in that set, meanwhile stating them to verifier and having him note them. Then take the 12 dorsals in the next set, and lumbar, sacrum and coccyx in the next. In this last set I would advise that you weigh the relative positions of the ossa innominata in studying the position of a sacrum, because no accurate conclusion can be reached until these comparative points have been considered. They had better be reached knowingly rather than unconsciously.

DRILL NO. 18.

At this time special drills should be worked, and on locating the primary and secondary curvatures of spine, studying whether the primary curves are normal or not, the same with secondary, whether one primary curvature is normal or abnormal in relation with a second primary curvature, and whether the first secondary curvature is normal with the second secondary curvature or not, and whether any one primary or secondary tallies with all the rest or not, and should they not do so, then you begin to bring forth the primary observatory conception of a curvature, regardless of whether it be a kyphosis, lordosis, scoliosis or rotatory. Having studied in this manner,

the essentials of posterior, primary and secondary curvatures, let us again view the possibility of curvatures laterally in which there is a difference of normality. You might find a tendency of the spine to lean to the left or right in one vertebra, one region or in more than one region. Having determined all this, you are ready to weigh carefully whether there is or is not a pathological condition in this spine which may modify any and all conclusions you have reached previous to this, and in this way we introduce the value of pathological osteology.

DRILL NO. 19.

Exostosis is a more or less loose, bony growth deposited upon the surfaces of bones thruout the bony development, but of more than passing note to the Chiropractor because of the speed or retardation that it gives to our ability to adjust subluxated vertebrae. Other things being equal, exostosis is a hindrance to speed, altho in some given cases—bad subluxations—in a contractured muscular body is worse to deal with than a loose. limbered individual with exostosis. The amount of exostosis, the manner in which it has been applied, where it is applied are considerations that modify the former knowledge again. Naturally, realizing that all the knowledge we can get of these conditions is of value, we desire to get as much as we can. Looking at a body tells little other than that the general configuration does give us "an idea" as to whether there is or is not exostosis. Whether the individual portions move or not is also somewhat detected by observation, but the three best means that I know of to determine these factors are, in importance, arranged as follows:

- 1st, spinographical negatives. These determine the location, quantity, and how applied of exostosis upon and around each and every vertebra in the spine.
- 2d, aural detection. This work is determined by the placing of the ear against that portion of the spine nearest to the detected area supposed to be exostosed, and then trying to move the segments one upon the other. If there is exostosis, and it is not as yet ankylosed, then there will be (in the majority of

cases) a more or less pronounced decrepitation. This can be plainly heard with the ear the same as a physician listens to the beat of a heart thru the stethoscope.

3d, feeling with the fingers to determine whether the spinous or transverse processes do or do not separate while segments or portions of the spine move apart or not. The combined spinographical and aural work has proven to be more than commonly accurate. It proves the work, as we should desire to take this fact from the realm of doubt to the knowledge of exactness.

There might be some exostosis pilastered, laminated, etc., which might inclose one vertebra or an entire spine or any given quantity between. This can be somewhat accurately determined by placing the ear on the various portions of the spine receiving impressions, interpreting them and seeing the mental picture, via the ears. Should there be a grating of bone upon bone heard by the ear, which is implanted on a spinal region, you can be certain that it is either an acute fracture, permanent unhealed fracture, or exostosis. The history of accidents will disprove the fracture idea. In this drill I would advise that the ear be placed in each and every section of spine with your various squads as they are. Any section of the spine from the atlas to the sacrum can be heard in this way, by placing the ear on the various sections and asking the patient to move as limited a section as he can. For instance, in atlas work he can move one vertebra upon the other; the same is true with the axis, but, coming down to the neck, it is impossible to move one on the other, but several will move on the rest. But by mental effort the patient can oftentimes limit the number that would move and thus increase the value of your aural If there be freedom of vertebral movement without decrepitation, then there is no exostosis, altho there might be ankylosis.

DRILL NO. 20.

The last and most thoro and accurate analysis that can be given to a person is to have a class of 59 sitting In session and permitting each, one by one, walk up and

down the aisle, and let that walk be a natural one (patient wearing street clothes), permitting the balance of class to jot down on table their conclusions as to what subluxations they think the patient has by the very attitude of position and carriage of shoulders; the posture of body; the swinging of an arm or leg; the direction of the head. which way it leans, and how much and why; whether the man wears his shoes out at the heel, at the toe, whether on the inside or outside; whether he is knock-kneed or bow-legged; whether one arm swings more than the other; whether one shoulder droops more than another or not—in fact, the number of points to be observed are only limited by the possibilities of the imagination of the student. In the last analysis how much a student sees is how much brain he uses to see with; how many thots he uses to see things with. Inasmuch as we cannot do this for him, we can do no better than to plant a seed and then it is for him to nurture its growth. After you have put your class thru this analysis of detection, in which the Chiropractor is the detective and your patient the culprit, see if you can detect enough clues to convict him upon the evidence you can deduct. The detective, not knowing who is the possible culprit, begins work. He finally lets the evidence lead him to the very person who committed the crime. In this instance you are starting out by knowing who the sick person is, but you do not know what the subluxations are until you have detected the evidence; this you do by deduction.

DRILL 21.

I would even suggest that you carry this work farther, i. e., after you have observed all you can by seeing the spine (with the clothes on). I would suggest that he remove all clothing to the hips, letting the trousers as low as convenient, and then repeat the walking backward and forward, and then again detect additional evidence which would more thoroly convince you of his guilty spinal column and the crime of sickness. In the parlance of the street it is up to you to fasten the sickness and its cause to him, without his committing himself. Have your patients prepared as for a regular palpation; let the class of 20 view the posture of each of his patients when sitting, and upon the strength of observation alone

let them put on their tablet what subluxations they think exist. Here, as before, the position of head, the drooping of shoulders, the prominence of ribs, the prominence of spinous processes more or less, etc., can all be seen, and should be noted as indications of subluxations. Having done this with one patient with street clothes on first, then do the same as for a palpation; then have the spine palpated and see how near or how far the student was from the approximate facts of the case. This drill can be made most thoro, so much so that Chiropractors can be made and drilled and trained to be almost Pinkerton detectives of every subluxation a man has. There are some men today in our profession that can "spot a subluxation," one or more, by a seeing walking down the street. This has been the product of years of diligent, persistent and persevering personal mental training, sight, aural, feeling and spinographical observation and comparison.

DRILL WORK.

The object of this is to habituate the student in the accuracy and value of making detailed work a habit so that it would be impossible habitually to make a wrong move. The results ultimately depend upon the accuracy of every detail and how correctly and conclusively it may be done.

Sheldon says, "No business is stronger than its weakest link," or, in other words, a successful business is no more successful than the sum total of the successes of each unit in that business. We can make a practical application here by saying that the results attained in adjusting are no better than the accuracy with which each detail is carried.

The object, then, is to practically drill and repeat, and repeat the little detail which goes to make a careful Chiropractor in his analysis and adjustments. In this connection it is. In this connection we propose starting at the foundation and carrying every detail thoroly in the drill.

You have remembered our lecture on "The Principles of Adjustments," during which we carried much which had to do with palpation because palpation blends into adjustments; consequently there is no dropping-off point between one and the other.

The question of direction is a very important object. As laying the foundation of all adjustments, I have the student learn the question of direction very thoroly, then have him take a given place on his chair, and with his finger point the different directions that he would be expected to adjust a vertebra, supposing that the patient is face downward on the given chair. This will impress upon his mind in what idea to adjust a vertebra.

DRILL 22.

Let the index finger of the right hand point to nail point No. 1 on the left hand. Repeat this process many times.

Let the first finger of the right hand point to nail point No. 2 on the left hand.

Let the first finger of the right hand point to nail point No. 3 on the left hand.

Let the first finger of the left hand point to nail point No. 1 on the right hand.

Let the first finger of the left hand point to nail point No. 2 on the right hand.

Let the first finger of the left hand point to nail point No. 3 on the right hand.

Let the first finger of the right hand point to the nail head on the left hand.

Let the first finger of the left hand point to the nail head on the right hand.

Let the first finger of the right hand point to the hammer head of the left hand.

Let the first finger of the left hand point to the hammer head of the right hand.

Count 1, 2, 3, 4, and with count 1 place the finger on the nail head of the left hand; with No. 2, the finger on the nail point of the left hand; with No. 3, the finger on the hammer of the nail head of the right hand; with No. 4, the finger on the nail point of the right hand. Repeat this process 1, 2, 3, 4, alternating the hands between left and right.

DRILL 23.

Practice placing the hammer head of the right hand on the nail head of the left hand.

DRILL 24.

Practice placing the hammer head of the left hand on the nail head of the right hand.

DRILL 25.

After practicing the placing of the hammer head on the nail head of each individual hand, then alternate, first the left hammer on the right nail head, then the right hammer on the left nail head. Gradually work this up in speed, also counting 1, 2, 3, 4, so as to make that change.

Starting slowly and carefully working up speed, be careful to watch and see that the hammer head strikes the nail correctly and every time. This does not mean that you can hit somewhere "about there"; it means you want to do it exactly and correctly every time.

DRILL 26.

You may hold up the three left fingers of the left hand, and place them in the proper position, everyone in the direct line of the other, so that when a pencil is placed over the tips of the three they will be in exactly a straight line. Take a pencil from your pocket and do this. Practicing the following, taking the pencil, for skin, from the fingers, spread the hand out, bring it back in line, and place the pencil on the fingers, following with count of 1, 2, 1, 2, etc.; now reverse. Take the opposite hand; first follow the first three fingers of the right hand, placing the pencil against the finger tips, taking them exactly in the straight line; now repeat the same process, 1, 2, 1, 2, etc.

DRILL 26.

Inasmuch as the sense of feeling is a most important measure to be considered, the keener the sense you have the keener can you make an analysis of the spine. With that end in view, let us assume that our patient is laying on the table. You are standing upon his left, permitting the right hand to be the palpating hand, with the tips of the three fingers pressing against the other, then supposing your bared left arm to be the skin of the patient palpated. Take these three fingers and lay them, running down the arm, touching the skin lightly, so lightly that you can feel the slight irregularities, pumps, hairs and uneven surface, from the elbow to the wrist. Let us

repeat this according to count of 1, 2, 1, 2, etc. In making this movement let the fingers rest lightly and the movement be slight. Repeat again, 1, 2, 1, 2. After repeating this twenty-five times, then put on enough pressure that you can get below the skin and feel the irregularities of the muscles themselves, 1, 2, 1, 2, etc.

DRILL 27.

Supposing you were standing upon the right of your patient and your left hand becomes the palpating hand; then permit the right arm bared to the elbow to be the skin of your patient and the first three fingers of the left hand will then be palpating. Straighten them up or line them according to a pencil and hold them in position while we make the same slow and gradual movement. While you are taking this exercise keep your mind on the careful interpretation of the impression you get from the skin. Take this movement slow according to count 1, 2, 1, 2, etc. Repeat this twenty-five times. In like manner make the pressure deep, penetrating, if you can, in the skin, and feel the bones of the forearm in the same slow, even-pressure, gliding movement.

DRILL 28.

Have the patient's head at different angles, fix the patient's head to the north, another to the south, another east, and another west. Then take in the four diagonal points and have the student body move their position in each different direction, allowing the arm palpating to assume the position of the patient on table.

DRILL 29.

After having assumed and drilled on the given subject above, then 10 patients lay down on 19 adjusting tables. It is immaterial whether they have their clothes on or off, but on is just as satisfactory in this case; and then have 10 students stand on the *left side*, and repeat with them the drill of 1-2-3-4-5-6. No. 1 will be for the running movement of three fingers, evenly placed over the coat; No. 2 will be for the taking away of the first and third fingers, permitting the wrist to be elevated in the air; No. 3 is for the dropping of the wrist, with the index finger still pointing to the opposite subluxation;

No. 4 is for the placing of the nail point at the tip of the index finger; No. 5, for the removal of the index finger after the nail hand is set; No. 6 is for the placing of the hammer hand on the nail hand. After you have repeated this exercise between twenty-five to fifty times on the left side, have your student stand on the right side of the patients and perform the same, changing hands according to the opposite side, starting in with each of these exercises slowly, giving time between counts; then gradually increase the speed until, instead of there being jerks between the count, make them roll one into the other. Carry this out thru the dorsal and lumbar vertebrae.

DRILL 30.

Standing on the patient's left the student uses the left hand as the nail hand. Have student body assume that position and place left hand in position as nail hand.

DRILL 31.

Student standing on the right side, right hand is the nail hand. Have him assume the position, placing right hand as if it were the nail hand.

DRILL 32.

Standing upon patient's left, the right hand is the hammer hand. Have him place left hand as nail hand and right hand as hammer hand. Have him assume this position.

DRILL 33.

Student standing on patient's right, the right hand is the nail hand. Have him place left hand as hammer hand over and on nail hand.

DRILL 34.

The only place this varies is in the cervical region when the face is from you, then the right hand is the nail hand when standing upon the left of patient. Have student body assume this position.

DRILL 35.

The left hand becomes the nail hand when the student is standing upon the right side of the patient, with the face from you in cervical region.

DRILL 36.

With the student standing upon the patient's left, and the right hand as the nail hand, the left hand becomes the hammer hand, when the face is from you.

DRILL 37.

Student standing upon the patient's right, with the left hand as the nail hand, with the face from you, the right hand is the hammer hand. Have each of these points practiced out by the student body. Have him place his hands in that position and drill him constantly, so that it becomes a habit to him always to regard that change.

DRILL 38.

In adjusting cervical vertebrae with the face toward you and student standing on the left, the left hand remains the nail hand.

DRILL 39.

Standing upon the patient's right with the face toward you, the right hand is the nail hand.

DRILL 40.

With the patient's face toward you and the left hand the nail hand, the right hand becomes the hammer hand.

DRILL 41.

The student standing upon the patient's right with the face toward him, with the right hand as the nail hand, the left hand becomes the hammer hand.

Have each one of these points drilled so that the student gets into the habit of knowing which hand is the nail hand and which hand is the hammer hand according to which side of the patient he is standing on in relation to the direction the patient is facing. A general rule to remember is that with the patient's face toward you the same hand remains the nail hand and the same hand becomes the hammer hand as is customary in palpating and adjusting the dorsal and lumbar vertebrae, considering which side of the patient you are standing on.

DRILL 42.

Have 10 patients lay down on 10 adjusting tables. Have 10 students stand on left side. We are now going to learn how to palpate and get our hands in position for

adjusting the cervical vertebrae on the bench. upon left side with patient's face towards you, and repeat with me every step of the process as enumerated, 1, 2, 3, 4, 5, 6 and 7. Drill twenty-five to fifty times with the face towards you, then repeat the same process with an equal number of times with the face of the patient from the Chiropractic. This necessitates a changing of hands in the position. Carry this out on the left and then have the Chiropractor stand on the patient's right, repeating the same process first with the patient's face towards you with an equal number of times, with an equal number of counts; then have the patient's face from you. will necessitate some careful, clean and clear work in order to have the patient understand the details. only difference between the work in the cervical and that in the dorsal and lumber: No. 1 is for the running movement; No. 2 is for the index finger upright; No. 3, for the wrist movement of the way; No. 4 is for the placing of the nail point; No. 5 is the taking away of the index finger; No. 6 is for the using of the hammer, and in placing it on the head of the patient and seeing that the head is flat on the table; No. 7 is for the placing of the hammer hand on the nail hand. We have in the cervical work one more point to be considered than we have in dorsal and lumbar.

DRILL 43.

With the face from you the hands reverse. The hand which was the nail hand becomes the hammer hand, and the hand which was the hammer hand becomes the nail hand. In other words, the fingers of the nail hand never point toward the face.

DRILL 44.

In palpating any vertebra, whether atlas, axis, cervical, dorsal, lumbar or sacrum, remember to have the first three fingers as palpating fingers. Have the student body take the first three fingers of the left hand and glide up and down their arm or the back of a chair. Have them do this repeatedly so that they get into the habit of knowing which fingers to use. Emphasize the aspect of having these fingers evenly spaced and strengthen the idea that these fingers want to glide up and down that spine, the movement being a running one rather than a stationary massaging movement.

DRILL 45.

After thoroly drilling with the left hand in that manner have them take the first three fingers of the right hand and glide down the left arm or the back of a chair.

DRILL 46.

The first process in the palpation of a spine is to determine a *posterior* spinous process. This is accomplished by *running* movement of the three fingers over the tips of the spinous processes.

Having determined a posterior spinous process, then have the fingers palpate on the right side of these spinous processes and determine if that posterior process is more right by comparison than others.

DRILL 47.

Having accomplished that, then determine by a like process whether that posterior spinous process is more left than normal.

DRILL 48.

The last process of palpation is to place the three fingers in a stationary position and by comparison with the vertebrae above and below judge whether that posterior right or posterior left spinous process is too close to the one above or below. This determines whether the subluxation is superior or inferior.

DRILL 49.

Have your student body drilled in every one of these phases. Taking the first three fingers of the left hand running on the right arm, have them approximate that they have found a spinous process subluxated, and then drill them how to remove the first and third finger, allowing the middle finger to remain as the index finger, also emphasizing that the object of this movement is to permit the fist to be withdrawn so that it is not in the way of the hand which is soon to come upon the scene.

This can be done nicely by counting 1, 2, 3—1 for the running movement down the arm; 2 for the taking away of the second and third fingers; 3 for the dropping of the wrist level with the arm.

Repeat this again and again until they understand what you mean. This point, like all others, can be worked

up into speed proportionate as they become accustomed to the habit.

DRILL 50.

Standing upon the patient's left with the right hand as the palpating hand and the first and third finger removed and the wrist dropped, all is in readiness for the nail hand to take position. Then allow the nail hand to drop directly at the end or tip of the index finger. The index finger remains in position until the nail hand has been fixed in position. In other words, the index finger is never removed from the patient's back until the nail hand becomes set.

Repeat this process by counting 1, 2, 3, 4, 5:

- 1 is the running movement of the three fingers.
- 2 is the taking away of the first and third fingers.
- 3 for the dropping of the wrist of the palpating hand.
- 4 for the placing into position of the nail hand.
- 5 the taking away of the index finger.
- Drill this time and time again until they get the idea.

DRILL 51.

Standing upon the patient's right with the left hand as the palpating hand, repeat the same process, 1, 2, 3, 4, 5.

DRILL 52.

Having drilled this over thoroly, the next point to be considered is the position of the hammer hand in this connection. Repeat a like process by counting 1, 2, 3, 4, 5. and then add 6, which is the placing of the right hand as the hammer hand when standing upon the patient's left.

DRILL 53.

Then change the direction, have the student body assume that they are standing upon the patient's right with the left hand as the palpating hand; go thro the same process, 1, 2, 3, 4, 5, and then add 6, placing the left hand as the hammer hand on the right hand, which is the nail hand.

DRILL 54.

After having carried the usual exercises leading up to the palpation processes, wherein they have learned how to place the fingers and how to set the nail hand and

where to place the hammer hand on the nail head, etc., then forget all of those movements and practice this one. Place the hammer head on the nail head, get all ready to give the adjustment, then consider carefully the import of knowing that the nail point must never be raised from the board, cloth or patient's back after you have placed the hands, i. e., once you are thoroly prepared and fully ready to give the adjustment you should not raise the hands just before lowering the hands for the adjustment. To carry this fully count 1-2; 1-2; 1-2; 1 meaning the downward movement of the hands induced by the bringing of the two elbows together, permitting the shoulders to be the fixed point; 2 is the getting the hands into position again after you have sprung the hands from the body of the patient. Continued repeating of this drill, paying the strictest attention to the points brot out, will make you get the least possible resistance from your patient.

DRILL 54.

Having led your work up to this point and all gone well, then begin with the count 1-2-3-4-5-6, and then a pause, and 7, which includes the movement spoken of above. This gives all the necessary steps leading to successful work.

DRILL 55.

We have now reached the point where we want to drill on directions. As your first elemental process assume that you have a compass showing North, South, East and West.

Then assume that you have the four half directions, such as Northeast, Northwest, Southeast and Southwest. This can be done nicely by first drawing on the blackboard a square, putting the letter "N" above, "S" below, "W" to the left and "E" to the right. Drill them on these directions.

Have them repeat the opposite direction as you call off one. For instance, I call North, let them look at the square and call South. I call West, let them look at the square and call East.

Then have them close their eyes and still retain in their minds the picture of that square and repeat the process. I call South, let them call North. I call East, let them call West.

DRILL 56.

Having drilled them on this thoroly, then from the center of this square radiate four diagonal lines running to each corner of the square, and with their eyes open have them repeat the opposite of the direction you call. For instance, I call Northwest, and they repeat Southeast. I call Northeast, and they say Southwest, on the corner of the square. Drill on this thoroly with their eyes open, then close their eyes and repeat the process.

Erase this square from your blackboard and place a small center square; then permit 8 lines to radiate from that center square: one North, one South, one East, one West, one Northeast, one Southeast, one Northwest, one Southwest; then repeat the process of drilling on these directions with their eyes open and then with their eyes closed. Impress upon their minds the picture that they get in seeing where these lines end on this center square. For instance, show them that the Northeast line terminates at the Northeast corner of that square. This point will be made valuable later on.

DRILL 57.

Having impressed upon their minds the 8 cardinal points of consideration in directions, then erase that picture and put this in its place. Make a large square again and put "S" above, "I" below, "R" to the right and "L" to the left. Drill them now on these 4 cardinal directions of adjustments.

You will then add the corner directions, R. S., R. I., L. S., L. I. This gives us 8 cardinal points. In addition to this we have posterior and anterior, which we cannot illustrate on the board, but we will observe them with all consideration.

DRILL 58.

Having drilled them carefully to repeat the opposite of these directions to what you have called, with their eyes open have them close their eyes and still see the picture on the board, and repeat for you the opposite direction. For instance, I call S. they call I, I call R. S. they call L. I., I call P. R. S. they call A. L. I.

Drill carefully on this idea of direction, as it is a foundation on which to base adjusting.

DRILL 59.

Having given the directions careful attention as to drilling, have the student body assume the position for adjusting a posterior subluxation, standing upon the patient's left and watching carefully the proper nail and hammer hand used.

Have him assume the position for a P. S.

For a P. I.

For a P. L. S.

For a P. L. I.

For a P. R. S.

For a P. R. I.

DRILL 60.

Then have the student assume that he is standing on the right of a patient and have him watch which is the nail hand and which the hammer hand to use; then have him assume the position for adjusting a P. subluxation.

A P.S.

AP.I.

A P.R.S.

A P. R. I.

A P. L. S.

A P. L. I.

Having carefully assumed the proper direction for these cardinal subluxations in dorsal and lumbar, then go thro the directions to be assumed in adjusting the various combinations of atlas subluxations.

DRILL 61.

In adjusting atlas subluxations, bear in mind, use nail point No. 2 on either hand.

R.S.

R. T.

R.A.

R.P.

R. A. S.

R. A. I.

R. P. S.

R. P. I.

L.

L.S.

L.I.

L. A.

L.P.

L. A. S.

L.A.I.

L.P.S.

L. P. I.

DRILL 62.

Conduct drill with 10 students as 10 patients and 10 students as 10 Chiropractors. Have them direct, tell and show each patient how to get down on a table, how to get up from a table without least wrenching or twisting. Then explain to them that the value to the patient is how long the vertebrae stay in place after the adjustment has been given. To jump off a table to retrace the subluxation and make it worse. Have each student in his turn tell a patient how to get up and down. It is even better to show them how it is done.

DRILL 63.

The position of the nail hand has a great deal to do with the accuracy of this work; see that the nail hand is placed in the proper position. Have the student body stand up and assume the right position of the left nail hand. Relax the arm to the side and bring the hand up again, assuming the right position. Repeat this process time and time again until the attitude of all is correct.

DRILL 64.

Have the student body assume the right position of the right nail hand; relax the right arm to the side and bring the same hand up again, assuming the correct position. Repeat this process until the attitude of all is correct.

Then, with the left nail hand in proper position, drop the right or hammer hand correctly into position. Repeat this process until it becomes a habit.

Then, with the right nail hand in proper position, place the left or hammer hand correctly in position. Repeat this process until it becomes a habit.

DRILL 65.

In the afternoon clinic arrange your work so that 10 patients step upon the platform, receive their adjust-

ments and leave the platform. Take a series of 10, for instance, supposing that 10 patients have 10 subluxations. If you have 10 adjusters, have the full series of drills of 1, 2, 3, 4, 5 and 6. Then pause for a moment, while they get ready for the adjustment movement, then call 7. At this moment they are all on the platform giving the adjustments together; then let all 10 adjusters go to the next that is on their list, and do the same clear down the list. After you have gone through this drill of adjustments of 10 subluxations with 10 adjusters, then let the 10 patients leave the platform at the same time. Supposing one patient has only 8 subluxations and another only 7, and another 9, let all 10 start at the same time. It means that one will finish sooner than the rest. but let him remain on the platform until the others are through, then all 10 patients again go off the platform together. Do not permit the next 10 to begin until your 10 tables are filled, then start in the same work again and go on; this means that the drill before and after clinic hours will be made practical in the actual clinic.

DRILL 66.

In this drill we have our 10 tables lined up in usual manner, 10 Freshman students resting on the tables. The students pass from each patient to the right side of the platform, 10 in a squad. There is one man to each table. all students standing on patients' left. The object of this drill is to get the student acquainted with the right hands to be used according to which way the face of the patient is in cervical work. For instance, student stands on left of patient, patient facing toward student. In this case the right hand palpates, left hand nail hand, right hand hammer hand, for which we count 1, 2, 3-1 being to put the palpating hand in position; 2 being to place nail hand in position; 3 being to place hammer hand on nail hand. When all 10 adjusters are working as a unit on 1, 2 and 3 count, then have patient reverse his face away from the adjuster. In this instance the left hand becomes palpating hand, right hand nail hand, left hand hammer hand, for which we count 1, 2, 3. In this instance in this drill the student has the advantage of each of his hands standing on one side.

DRILL 67.

On the next day have 10 patients on 10 tables, but reverse the direction. Have the students stand on the right side of the patients and go thru the counts 1, 2 and 3 with the patient's face toward the adjuster and then from the adjuster. In these two drills the student gets the advantage of placing of hands from both sides of the patient, with the head in either direction for adjusting cervical work.

DRILL 68.

In this drill the object is to get the student trained to get the right hands from the right side. For instance, standing on the patient's left, right hand palpates, left hand nail hand, right hand hammer hand. On the opposite side of the table the positions reverse. Have your 10 tables arranged as they usually are. This makes 20 sections. Have the first two stay at the 1st table, facing the other 9, and count 1, 2, 3, facing the usual way. Have those two students then get on the other side of the same This necessitates a change of the hands; then count 1, 2, 3. Then have the same two students step to the left side of the 2d table, facing; then meanwhile have students 3 and 4 face the other 9 tables and go right thru with the student body in this drill. This gives each student a drill of 20 times in the question of what hands to use on each side. In other words, he makes changes 20 times from side to side; 10 on one side and 10 on the other.

DRILL 69.

In this drill the object is to impress thoroly on the mind of the student the question of the one-fourth circle turn at the cervical neck and the horizontal spinous process of the axis to the perpendicular spinous process of the patient. Have your 10 tables regularly arranged, 10 patients on them. Have the patient face toward the student. Have him stand on the left side, then count 2, 3, 4, 5, 6 and 7. Meanwhile his nail hand stays in a proper position to adjust an exis and at each subsequent count the angle and position of his hand corresponds to the slant of the change of the vertebra. On one day drill all of these from the left side. On the next day take the same drill but change the position of the adjuster to stand

upon the right side of his patient. This can be extended into a 4 days' drill.

1st: Standing on the left face toward him.

2d: Standing on the left face from him.

3d. Standing on right face toward him.

4th: Standing on right face from him.

In all these drills that we possibly can we aim to keep not only the squad that is working on the platform busy, but also keep the body of the student body busy and working.

For instance: In the drill where we have 10 patients on 10 tables with 10 adjusters in impressing upon their mind the idea of changing sides.

For instance: In adjusting the cervical the student stands on the left of patient with patient's head toward him, then the patient's head is reversed. The student getting the knowledge of the change of hands with the different directions of the head. Then have student stand on the right side of patient, carrying thru the same idea there. While this drill is going on with the squad on the platform, carry only this characteristic phase of the work. In speaking to the student body, say, take a look at the position of the 10 students. Notice what side they are on. Notice the position of the patient's head. Close your eyes. What side are you on? Which way is the face? Palpating hand? Nail hand? Hammer hand? At each one of these statements have the student body, as well as the squad that is working, reply to the answer.

In this way you keep the entire body working and cuts down any possibility for lack of attention.

Divide the class up into squads of two men and two men only to each table. Have him explain carefully to another student, who is presumed to be a patient, just how to get up and down on the adjusting bench and also why we take this care. After having gone thru your class of its male members, then take the female members and do the same, having two women to each table. One day have ten lady patients and ten lady Chiropractors, then the next day reverse the order. In this way each person gets the drill. Having then gotten each to understanding what is desired then get the various students to understanding how to handle the opposite sexes. Have

a male student assist a female patient, then reverse that, having a female Chiropractor assist a male patient.

DRILL 70.

Having gone thru this carefully, let the patient raise all sorts of objections, such as stiff neck, ankylosed left arm, right arm, left leg, right leg, inflammatory knees, stiff backs, etc., etc. All of these obstacles demand ingenuity upon the part of the Chiropractor to meet the problem. His explanation should be in accordance with that. Rather than to have a "set explanation have it a stretchable one to meet all of these pathological or traumatic conditions.

DRILL 71.

Having made this drill then have one set call the mistakes or errors or suggest improvements in the work of another set. Thus it teaches one crew to criticise the mistakes of another crew. It makes each use his brains and think for better ways to do things. Don't get into set ways of doing anything, be movable, elastic, change from place to place in your ideas and ways of doing things, for no two patients that you come in contact with will be the same.

We have from time to time impressed upon you the value of detail as a means of accuracy to accomplish the excellence that only follows the accurate application of detailed work. One of the main essentials is to have a firm and thoro control of your body so far as you consistently can. One of the inconsistencies that is prevalent today, especially with ladies, is the run down heel, either on one side or on the rear of the heel. A right foot may be run over, the left might be so afflicted, or both outsides or the rear of one or both heels might be so run over. You have a right to ask in what way this affects adjusters and the quality of their work. When you get an opportunity, watch the foot motions of some lady adjuster when she is leaning forward over her patient, trying to give a careful and thoro adjustment. You will find that her feet are wiggling, squirming, twisting, etc., There is no firmness, stability of the under pins whatever. That adjuster cannot rely upon a solid base and realize that it is a strong factor in making for or against her adjusting. Not over one-tenth of the people walk on a flat or square heel. New shoes are usually flat. The men can have a run down heel and it not be so noticeable, because of the large flat surface that the male shoe heel always has. The female shoe heel is usually perched high in the air, slightly forward of the heel proper; hence to even slightly run that on one side or the other means to make that small ground touching portion make the heel higher situated much the worse for the wearing and reduce her ability as a Chiropractor proportionately. Knowing what I do, I would ask to see a Chiropractor's heels on his or her shoes and consider that as much a recommendation as to their fitness to deliver results as many other points that are carefully weighed that are inconsequential. The Chiropractor, to be consistent, should at all times and on all shoes have a square heel. It costs little and means much. Quality results being the criterion which counts—with which business succeeds: without which failure occurs.

During the latter part of the week take the case records that they have on their books, have them in the open where they can be seen, let them call each subluxation as they run from above downward and take the position accordingly and give the opposite direction. Have them call the subluxation, take the position for adjustment and call the adjustment direction.

A Unique Feature of the P. S. C.—Our Osteological Studio

A charming and unique feature of The P. S. C. is its osteological studio. It is something to be able to say, "this is the finest, largest and best collection of human bones in the world." It is this which makes our studies more interesting, our students more interested, and our graduates out-shine those of all other schools. To the casual visitor who spends a day amongst them, each specimen has a silent story, but to the student who is "drilled" in them daily for nine months they become as an open book—the outcome of deductive reasoning along the lines of Chiropractic Philosophy as taught at The P. S. C. Nowhere in the world can the study of pathological and anomalous bones be better accomplished, and in no school in the world is there teachers better equipped with knowledge of them, and better able to impart it than at "Chiropractic's Fountain Head." We have hundreds of specimens of every bone in the human body, both normal and abnormal, thus allowing comparison, with scientific reasoning, to beautify and render interesting the study of them. A day in the studio is well spent—it is an opportunity—a privilege nowhere else met with—and we extend it to all who desire to enjoy it. The work of Innate Intelligence, under pathological, taumatic and normal conditions, can be deeply and profitably studied. To the initiated student, studying, we will say, vertebrae, it is easy to see at a glance why one person is restored to health by one adjustment, while another may take weeks or months. You must see and have explained to you these things, before you can fully understand them. Ankylosed, carious and wedge-shaped vertebrae; conditions of necrosis, osteomalacia, osteosclerosis, osteospongiosis, osteophyma, exostesis, etc., etc., by the thousands are all represented. Femora, radii, ulnae and long bones generally are exhibited in various forms of fracture. Knit during life by Innate Intelligence; refractured and re-knit by the same agency; bones which in life have been faultily set—all have their histories, written in large letters, for the thinker. Many articulated skeletons, exhibiting conditions, of gibbosity, lordosis, scoliosis; fractured ribs, vertebrae or limbs; sequestra, parts atrophied or hypertrophied, necrosed, etc., etc. Giant fetal skeletons, skulls, pelvic girdles and extremities; in fact, nothing is lacking. In one word, it is complete; something never to be forgotten. Expense has not been considered in getting together this magnificent collection. It is one of the wonders of the world; here for you, and you ought to see it. Don't rest until you have made this possible. The only complete collection at the only equipped Chiropractic School is open for you to see. It's an immense opportunity. Grasp it. You'll benefit.

Read Mr. Charles Truax's opinion (of Truax, Green & Co., Chicago): "Dear Dr. Palmer:

"I wish to express my thanks for the privilege of looking over and making an examination of your collection of pathological and anomolous bones.

"It is certainly a fine assortment and is by far a much larger collection than can be found in any other part of the United States and I doubt if, in many respects, it can be excelled anywhere. It was certainly a great privilege—one that I fully appreciated.

"Again thanking you, Yours very truly, CHARLES TRUAX."



Consultation and Examination at the P. S. C.

Consultation free. Adjustments at **The P. S. C.** \$10.00 for the first and \$5.00 each week thereafter. This includes all cases except lupus, cancers, tumors and epilepsy, which are \$20.00 the first and \$10.00 each consecutive week. Room, \$1.50 additional each week.

Adjustments and reservations must be paid each week in advance.

Out of Town Calls

B. J. Palmer, D. C., answers all calls from a distance where immediate and experienced results are imperative. Distance is immaterial. Acute diseases are the object of the majority of calls, but many chronic, contemplating adjustments at **The P.S. C.** often prefer a visit of Dr. Palmer previously. to make certain that results can be manifested before assuming the responsibilities of such a trip.

Dr. Palmer is subject to immediate call, at any hour, day or night, providing he is not out on some other trip or not previously engaged for that day.

Write or wire and reply will be promptly made, by telegram or letter, stating just what hours and day of arrival can be depended upon.

One night, \$10.00 and expenses.

Sunday and nights, coming or going, \$25.00 and expenses.

Week days, night included, \$50.00 and expenses.

Time is computed from hour of leaving school.

The P. S. C. is glad to furnish complete itineries to anyone coming or leaving Davenport.

Make telegrams or letters explicit and brief.



Ph. C.--Philosopher of Chiropractic

"Philosophy has been defined: The science of things divine and human, and the causes in which they are contained; the science of effects by their cause; the science of things evidently deduced from first principles; the science of truths sensible and abstract; the application of reason to its legitimate objects; the science of the original form of the ego, or mental self; science of the absolute; the science of the absolute indifference of the ideal and real."—Sir W. Hamilton, in Webster.

"Philosopher: One who philosophises, one versed in, or devoted to philosophy." 2. "One who reduces the principles of philosophy to practice in the conduct of life; one who lives according to the rules of practical wisdom."

—Webster.

The philosophy of Chiropractic, as taught exclusively at The P. S. C. embraces all of the above definitions and comes within their bounds and limits. Knowing this, this school will, after January 1st, 1911, issue to each student having an average of 98 per cent or over on final examinations, at the expiration of his three or nine months course (according as he is an M. D., D. O., or a layman) a diploma conferring the degree of "Ph. C." (Philosopher of Chiropractic). If below that standard, then the usual "D. C." (Doctor of Chiropractic) will be granted.

All students completing a "P. G." (Post-Graduate) course of three months (without charge other than tuition of \$100, paid at the time of first matriculation), and passing an advanced philosophical examination with an average of 90 percent or over, will have the degree of "Ph. C." conferred upon them. To defray the expenses in giving the graduate a second examination, correcting papers, issuing diploma, etc., it is further required that each post-graduate candidate for the "Ph. C." shall contribute \$5.00.

Either of these diplomas will be the same as the ones now issued, given gratuitously, with the exception of the degree, which will be printed to correspond. This gives the "P. G." two diplomas, each with a different degree.

The high percentage in first examinations acts as an incentive to reach a higher degree of efficiency, bringing forth the best efforts of the student.

Any graduate of The P. S. C. is entitled to return at any time and get the advanced thoughts and work, without extra charge. If he wishes the examinations and, upon their completion, wishes the advanced degree, the above regulations must be complied with. The P. S. C. diplomas are genuine parchment, 17 x 22 inches, made from lithograph drawings printed in colors, are not for sale at any price, but must be earned.



Stereopticon Lectures

In addition to the 24 lectures on diseases to be delivered this winter, B. J. Palmer, D. C., Ph. C., will discourse on 52 lessons, illustrating—

- 1st.—Each vertebra in the spine.
- 2d—How to palpate for normal and abnormal positions.
- 3d.—Illustrations showing each and every subluxation that is possible and does exist between vertebrae.
- 4th.—Pictorially depicting the foramina where pressures upon nerves exist with each subluxation formerly shown.
- 5th.—Following this set, views are shown how to adjust each vertebra and how it would release such pressures.

Each vertebra is in two lectures and involves between fifty and seventy-five views. The P. S. C. has spent a great deal to introduce this practical feature, but its extreme value can be grasped in a moment. Upon this knowledge is based Chiropractic philosophy, science and art. The first lecture will be delivered immediately following the holidays. If you are contemplating the study of Chiropractic at The P. S. C. arrange to come right now and take this in.

One each Monday and Friday afternoons from 4 to 5 at the class room. These lectures are free to day and night students alike. Over 4,200 views have been taken for this express purpose. Think it over and act now.



READ ALONG CHIROPRACTIC LINES! EDUCATE YOURSELF CHIROPRACTICALLY!

The "Science of Chiropractic," Vol. 1

is the book for you. Collaborated by and containing many of the best ideas of B. J. Palmer, D.C., Ph.C., President of The Palmer School of Chiropractic. Every seeker for light should have this book. It's 400 pages and 102 illustrations, explain in an intelligible way, this new and glorious Science which is so rapidly superseding osteopathy and other systems—manipulative or otherwise—which treat effects. The cause of disease—inco-ordination between Innate Intelligence and her physical medium, the human body—is explained with clear and lucid detail. How the skilled chiropractor adjusts the subluxated vertebra or vertebrae which interfere with normal transmission of mental impulses, from brain, along nerves, to point of expression—tissue cell, is what this book aims to teach. It proves that lack of these life-giving mental impulses, or excess of them, means inco-ordination or disease. This condition is produced by subluxation of vertebrae, resultant from a concussion of forces which are unequal. It gets right to the rockbottom; we can't explain all here; sufficient to say every osteopath, M.D., or practitioner of any school ought to have this book and study it. It the world's "healers' only knew what they were missing, this edition would be swamped. The half-tones of specimens—normal and abnormal, position of operator and patient—position of hands in adjusting vertebrae, photographs of students of The P. S. C. at work, class work, dissecting, etc., etc., are all interesting and help wonderfully in the study of this excellent volume. It gives you some idea of what goes on at "Headquarters," Davenport, Iowa. It teaches you how to save work and time, how to work on definite scientific lines with one end always in view. It explains the Science which gets the longed-for results. It is the first chiropractic work on the market, and does not spend a page on the discussion of adjuncts of any kind. Its ideas, like the School from which it emanates, is "exclusive." No book has before attracted such attention or been discussed so much in medical circles; the arguments put forth are unanswerable—it teaches truth. Wherever it goes, medical and osteopathic supersitition is dispersed. No "feeling in the dark" to the chiropractor; no "perplexed" or assumed "wise" look for his patient to see and admire. "Straight to the cause" (and he always finds it) is his motto: Why wonder at his success under these circumstances? Why wonder that your neighbor who knows only a little of chiropractic, gets all the business. Perhaps he has Vol. I of "Science of Chiropractic," you haven't. See the cause? Adjust it by sending in your order for a copy. Co-ordination will thus be restored and patients will again come your way. We wish we could say more about it and "set you longing," but, get it and see.

Complete copy—handsomely bound in cloth, price \$3.35, postpaid.



MORE CHIROPRACTIC! MORE TRUTH! MORE LIGHT!

Vol. II "Science of Chiropractic"

It gives satisfaction to Dr. B. J. Palmer to know that his lectures as well as his other work, will "live after him." At the request of numerous students and members of the various audiences, The P. S. C. has consented to place into book form the series of lectures delivered by "the young doctor," at The P. S. C. Lecture Hall, February and March '07. To people who missed the opportunity of hearing these lectures this book is "Just it." Those who heard them were not content until they had them in their libraries, and they're the folks to judge. Many hitherto "hidden" truths are brought into the light and many open falsehoods are exposed. Daringly and fearlessly were the subjects handled by the lecturer, sparing nothing that was false and witholding no part of the truth. New ideas regarding the embryonic stage of life, foreible arguments against orthodox teaching with regard to the "sympathetic nervous system" and "reflex action" replacing this disprover theory with facts, proven beyond question, on the living subject. Dr. B. J. Palmer's discovery of the complete, direct Cycle of Life and its forces, gives to man a philosophical completeness which unlocks the door of mystery and makes every known function, whether performed normally or abnormally, clear as daylight. If a student was taught nothing but the spinal column, the brain and nervous system and their functions chiropractically, he would be better equipped to benefit suffering humanity than a graduate of the best medical school. This is no idle statement but is proven daily. Possession of this volume of lectures gives one a splendid chance to study all the important details of Chiropractic Philosophy. "Serous Circulation" another one of the many discoveries of Dr. B. J. Palmer, is ably presented. Many diseased conditions hitherto mysterious and unexplainable, can be readily understood and explained, by a knowledge of this important branch of chiropractic physiology. It tears down and suitably replaces the "blood theory" of nutrition. Investigators have tried to prove it false, but in the effort, the truth of it is revealed to them and they are converted to it. The book makes friends, that is why we want you to have it, and have put the price low. It contains some of the cream of chiropractic truths and is complete in every detail. Don't let yourself rest until you have this, and Volume I and III. You might just as well order now and take advantage of the special offer. Don't say "I wish I had" but "I'm going to," and go.

Vol. II is the most talked of non-therapeutical book of the age.

Price—Complete copy, postpaid, \$1.15.



Vaccination—Are You Interested?

The P. S. C. has a book which you ought to read if you are worth 16 cents. "Vaccination, the world's greatest humbug" by Geo. W. Lawbaugh, is a book you can't afford to miss, and we have purchased 700 of them-at a discount, for the benefit of our readers. This little work is fit to grace any library, is printed on good paper and artistically bound in red cloth. It's price makes it "a sin to be without it." The author handles his subject well and fearlessly; he is a fighter for truth, justice and liberty, and his work is full of bare, startling facts destined to open the eyes of those fortunate enough to be able to read it. The P. S. C. is ever ready to help in such missions as this author has, and wishes to further so noble and righteous a cause. We want you all to read this book and have put it at such an easy price as to make it impossible for you to resist. If you want sound advice, knowledge of actual unvarnished facts, and the outspoken truth concerning this abominable, filthy, ignorant practice of M.D.'s, don't delay, but send your 16 cents for this "little treasure." That vaccination is a crime has been taught by The P. S. C. since its birth. We want our readers to know it also, and as this work embodies our ideas on the subject, we could conceive no better and cheaper way of presenting them, besides adding a nice addition to your library. Let us have your order; we shall value it as much as a bigger one—our joy in seeing these books go out lies in the fact that we know that with every one goes a "ray of light" to dispel darkness and superstition. Children are saved from suffering-often their lives are saved, through the reading of such a book, by their parents.

After reading it you will never again allow filthy, loathsome vaccine virus to be injected into the body of your pure innocent child. Our heart-felt wish is that this book could be placed in every home; we feel sure that the "slaughter of the innocents" would then be stopped. The people would demand its abolition and with such a "voice of thunder" as would shake the practice to its foundations, striking the "learned ones" dumb.

Send us your order now—16 cents covers postage as well. You have our assurance, we know, you'll be "glad you did it."

Eight 2-cent stamps, or sixteen 1-cent stamps.



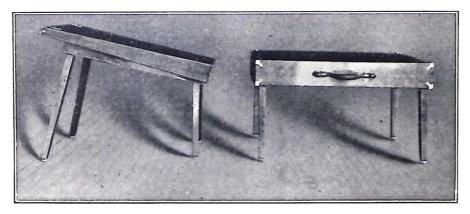
Suit Case Adjusting Tables

This school has taught Chiropractic for 13 years, having the largest enrollments, and has seen several attempts of inventive students to originate a compact device that would combine small size with light weight, great strength, solidity, and be practical. The illustrations are of a folding suit case adjustable table. THE CHIROPRACTOR'S editor and the professor of The P. S. C. have seen, purchased, tried and dismissed several forms at different times, because each had weak points.

It remained for 1907 to patent a table that measures 27x16x43% inches, weighing 20 pounds. B. J. Palmer, D.C., Ph.C., one of the patentees, has tested this work bench with 1,600 lbs. of live weight and has not found it wanting. They are guaranteed to stand the weight of any patient that can be placed upon them, and all the strain that will be given it.



The P. S. C. "CHIROPRACTIC'S FOUNTAIN HEAD" has received many calls for a table that in weight was light enough for any Ann Elizer (Lady Chiropractor) to carry from the office to a home; a thing of beauty which would be practical in the office, 365 days in the year, as at a residence on a hurry call. Made of quarter-sawed oak, given a polish, and a better piece of workmanship or investment for the Chiropractic profession could not be purchased. A Chiropractor is losing money to be without one. They are the insignia of his business; are not adapted for osteopathic "manipulations," but just the thing for a D.C. or Ph.C. They are to him what the "medicine case" is to the M.D.



Its shape, dimensions and outlines meet the approval of this school in every respect. They are fully protected by patent and any and all infringements will be prosecuted. The price is insignificant compared to their work-manship and daily value. Orders will be delivered promptly. Price \$20, including packing and crating. Make all Money Orders or Drafts payable to

> PALMER SCHOOL OF CHIROPRACTIC DAVENPORT, IOWA, U. S. A.

Partial Price List of Osteological Specimens

NAME	PRICE 1st Quality		PRICE 2d Quality
Mounted Skeletons, from	\$ 35.00	to	\$ 75.00
Skulls, from	5.00	to	21.00
Atlas	.75		. 50
Axis	.75		. 50
Carpal, each	. 30		. 20
Clavicle	.75		. 50
Coccyx	1.50		1.20
Femur	3.00		2.25
Fibula	1.50		1.00
Humerus	2.00		1.00
Hyoid Bone	3.00		2.25
Innominate Bone	1.25		1.00
Metacarpal Bones, each	.25		. 20
Metatarsal Bones, each	.25		. 15
Phalanges, either hand or foot	.25		. 2 0
Patella	. 50		.35
Radius	1.00		. 75
Ribs, each	.35		.25
Sacrum	1.50		1.00
Scapula	1.50		1.00
Sternum	1.00		.75
Tarsals, each	.40		. 30
<u>Tibia</u>	1.50		1.00
Ulna	1.00		.75
Vertebrae, except Axis and Atlas	. 50		. 35

For bones of young subjects showing epiphyses add 50 per cent to the first quality, and bones of aged subjects showing senility add 50 per cent to first quality price. Spinal columns, normal, \$8 to \$15.

The stock of pathological and anomalous specimens and abnormal spinal columns for sale by this school is constantly changing, thus it is impossible to print accurate and complete quotations. Typewritten lists kept up-to-date are for the asking.

The Sales Department of this school sells everything necessary for conducting a successful Chiropractor's profession, including adjusting tables, spinal columns, skeletons, literature, etc., etc.

If there is anything you wish that is not listed bear in mind we have it or can get it on short notice.



"Chiroprac The Palmer Scho	IROPRACTOR OLISHED AT tic Fountain Head'' ool and Infirmary of Chiro- enport, Iowa, U. S. A.	Enclosed find \$for which please mail 7	Money Order The Chiropractor for		
	beginning with	191, to	o following address:		
Name					
	Street No.	······			
Town or City					
Form 34	County	State			

Is YOUR NAME on the sample list?

If so, this is the Last Copy
You will Get

Send 50 two cent stamps for Your Subscription

Do It Now!

